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## IT'S TEA TIME!

Melody Wren, a U of G staff member who is widely known as "Canada's Tea Lady," knows everything there is to know about tea and shares that knowledge through books, a newsletter, workshops, seminars and other speaking engagements. She has also created a number of original tea blends that are so popular, some places can't keep them in stock. See story on page 7.

PHOTO BY DEAN PALMER/ THE SCENARIO

# Canada Foundation for Innovation Awards Close to $1 Million to U of G

*Funding will allow scientists to expand groundbreaking work in animal health, science and human medicine*

THREE U OF G PROJECTS aimed at increasing knowledge about disease processes in domestic animals, gene duplication and transgenic farm animals have been awarded nearly $1 million in research infrastructure grants by the Canada Foundation for Innovation (CFI).

The federal grants, announced earlier this month, support projects headed by Profs. Dorothee Bienzle and Jeff Caswell, Pathobiology; Prof. Barbara Mable, Botany; and Prof. Julang Li, Animal and Poultry Science.

Bienzle and Caswell will share equipment, with Bienzle researching two retroviral infections in cats and Caswell studying bacterial pneumonia in cattle and swine. Mable's research will investigate how changes at the molecular level affect processes at the whole organism level, and Li will develop the knowledge and technology required to routinely generate transgenic pigs.

"Studies of this kind require a lot of equipment," says Mable, who will study the consequences of gene duplication for the evolution of mating systems. "The funding will make my research infinitely easier than if I had been forced to scavenge for equipment in other laboratories. The quality of research that will now be possible will be much higher."

Caswell, who, along with Bienzle, will use the grant to buy a laser microdissector and other lab equipment for a central research facility at OVC, adds: "We are excited about the upcoming availability of these new tools that can be used to advance our understanding of disease processes in domestic animals. It will help us form a basis for novel methods of disease control in animals and understand mechanisms of disease that are common to all species."

The Guelph projects are part of a $12.1-million investment for research initiatives at 23 Canadian universities.

"This new funding will allow our researchers to continue and expand on their important and groundbreaking work in the areas of animal health, science and human medicine," says Prof. Ross Hallett, assistant vice-president (research infrastructure programs), who handles CFI applications and partnerships. "It is particularly rewarding to see the federal government recognize the quality and commitment of our up-and-coming women scientists."

All of the U of G projects fall under the New Opportunities Fund, which covers 40 per cent of the infrastructure costs of a project. The remaining funds come from the research institutions and private-, public- and voluntary-sector partners. Established in 1997, the CFI is designed to strengthen Canada's university research and training environment through partnerships with the research institutions, the provinces and other levels of government, as well as private and voluntary sectors.

The three projects that received CFI funding are:

- "Tissue Microdissection and Analysis for Animal Health Research," $399,976. Bienzle will focus on how feline immuno- deficiency virus interacts with the cells of a cat's immune system in the early stages of infection, and how feline leukemia virus causes injury to neuronal cells in the brain and spinal cord of cats. She hopes to better understand the disease and provide information that may lead to disease prevention. Knowledge developed may shed light on similar infections in humans, including the closely related human immunodeficiency virus that causes AIDS. Caswell will investigate why the lungs of cattle are innately resistant to infection with bacteria and how this resistance is impaired in animals at risk of developing pneumonia.
- "Evolutionary Significance of Polyploidy in Eukaryotes," $390,139. Mable will research the significance of polyploidy (duplication of entire sets of chromosomes) in the evolution of the mating system. Although its importance in the evolutionary history of plants is unquestionable, polyploidy has often been ignored as a potentially important factor in the evolution of animals, says Mable. She will study the consequences of gene duplication for mate recognition systems, which determine the breeding systems that can lead to genetic diversification within and between species.
- "System for Targeted Gene Manipulation in Somatic Cells," $172,998. Li plans to study gene targeting and animal cloning, focusing on manipulating genes in porcine somatic cells. She says her research should lead to an advanced genetic method for production of transgenic pigs. The transgenic farm animals could lead to improved food production through disease resistance and could benefit human health through xenotransplantation.

*BY LORI BONA HUNT*

# Guelph Has Key Role in Water Network

*Researchers across campus have water expertise*

U OF G will play a key role in one of four new Networks of Centres of Excellence (NCE) recently announced by the federal government.

The $14.9-million Canadian Water Network (CWN) is designed to ensure that Canada maintains its pre-eminent role in the management and sustainable use of water resources. It also aims to preserve access to clean water, protect the health of people and ecosystems, and support the economy.

The network involves 173 researchers and 38 universities, 29 industry organizations and 40 government departments and agencies across Canada.

Research will concentrate on six key areas: policy and governance; water resource management; drinking water and health; waste-water management; infrastructure; and groundwater and sediment protection.

U of G faculty are contributing to the network in a number of ways. Graduate studies dean Isobel Heathcote is the leader for the policy and governance theme. Profs. Robert de Loë and Reid Kreutzwiser,

*Continued on page 10*

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# BOARD OF GOVERNORS

## *President Updates Governors on Planning Activities*

AT THE MARCH 8 MEETING of Board of Governors, president Mordechai Rozanski reported on the $4.56 million in accessibility funding awarded to U of G by the Ministry of Training, Colleges and Universities (see Senate report below for more details) and noted that the University does not expect an announcement about the province's 2001/2002 operating grants for universities until April or May. This has resulted in a delay in U of G's budgeting process, he said.

Rozanski also updated governors on the University's current planning activities. On enrolment growth, he said the applicant pool for 2001/02 is strong and targets for 2001 entry have been set. He added that the number of entering students for 2001/02 has been reduced to make adjustments for overshooting the enrolment target in 2000.

On the research side, the University has submitted applications for eight of 10 Canada Research Chairs and expects to hear results soon, said Rozanski. Guelph continues to have success in gaining support from the Canada Foundation for Innovation and the Ontario Research and Development Challenge Fund; the cumulative total is now close to $97 million.

In terms of recruiting and retaining faculty and staff, the president reported that U of G has hired 58 faculty and 34 full-time staff over the past 10 months, and the search process is under way for another 21 faculty and 18 staff positions. He noted that of the new faculty, 40 per cent are women; 75 per cent are first-time faculty; 40 per cent are from the United States and the United Kingdom; and 36 per cent are from universities in Canada, with many having completed post-doctoral fellowships in the United States.

He also noted that mechanisms are being introduced to facilitate effective recruitment, including a new Web site and the development of promotional materials to market U of G and the City of Guelph to potential recruits.

In the area of facilities renewal, work is under way — under the leadership of a steering committee chaired by governor Mary-Elizabeth Flynn — on a review and update of the campus master plan, said Rozanski. Planning activities are also proceeding on campus facilities, particularly the science complex and classroom cluster.

The president informed the board that because of the delay in Guelph's budgeting process, the University decided to bring tuition fee recommendations to the March meeting of B of G so that students can have as much advance notice as possible of fee rates for next year. Board members approved the recommendation to raise tuition fees — undergraduate domestic, graduate domestic and international — by two per cent in 2001/02. As per government regulation, 30 per cent of the fee increases will be set aside for student financial aid.

The B of G meeting also included a presentation on the science complex, one of the biggest construction projects in the history of U of G, and the classroom cluster, a facility expected to address the University's need for "smart" and flexible teaching space needed by students and faculty in all colleges.

# SENATE REPORT

## *Task Force Finds Post-Secondary Education Efficient, Cost-Effective*

ONTARIO'S UNIVERSITIES have received a "clean bill of health" from a government task force that recently reviewed the post-secondary education system and found it to be both administratively efficient and cost-effective, president Mordechai Rozanski told the March 20 meeting of Senate.

Established last fall by the Ontario government, the task force was to examine the administrative operations of the province's universities and recommend ways to ensure that students have continued access to quality post-secondary education. Rozanski said the task force's report acknowledges the many challenges facing universities, including the expected "double cohort" and the need for increased operating funding for faculty and facilities renewal and teaching support. In addition, it recognizes that students are paying higher university costs and that institutions have actively sought more non-government sources of revenue, but now, system-wide investment is needed to meet future growth.

The president noted that the Council of Ontario Universities (COU) continues its efforts to increase operating funds in the current pre-budget consultations.

While on the subject of reinvestment, Rozanski told senators the University had received $4.56 million from the Ministry of Training, Colleges and Universities's accessibility fund, which will translate into $3.56 million in new funds because the University already expected $1 million from this fund.

The president said this money was meant to address the growing demand for admission to university programs, act as a down payment towards "unfunded" students enrolled since 1999 and support future enrolment growth. He said he expects that the accessibility funding will become base operating funding, but this won't be confirmed until the province brings down a budget in early May.

He added that the funding is very welcome news for U of G because it will help address the many challenges the University faces in this and next year's budgets related to enrolment growth. With this in mind, and with the hope the government will provide further support to Ontario universities, the provost and the Vice-President's Advisory Council are identifying areas for reinvestment to be addressed through the budgeting process, he said. This includes teaching needs, faculty and staff renewal, the library, registrarial services, student services and other areas affecting quality and accessibility.

### CALENDAR ERRORS NOTED

Prof. Maureen Mancuso, associate vice-president (academic), told Senate that the 2001/02 undergraduate calendar contains several errors, many of them related to software problems. She apologized for the errors and said steps have been taken to correct them and prevent mistakes in future.

A senator asked Mancuso why the Senate Executive Committee

*Continued on page 10*


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UNIVERSITY of GUELPH

## NEWS IN BRIEF

### SALARY DISCLOSURE SET FOR MARCH 30

Names and salary information for 68 U of G employees who earned $100,000 or more in 2000 will be made available March 30, as required by the Public-Sector Salary Disclosure Act. The 68 names represent 2.6 per cent of regular full-time University employees. A copy of the 2000 list can be picked up on or after March 30 at the reserve desk of the McLaughlin Library and at Communications and Public Affairs on Level 4 of the University Centre. The Ministry of Finance will post the province-wide listing for all public institutions on its Web site, accessed through gov.on.ca.

### UNIVERSITY URGES PRECAUTIONS AGAINST FOOT-AND-MOUTH DISEASE

Because of the foot-and-mouth outbreak in Europe, U of G students, staff, faculty or visitors who have been in the United Kingdom or continental Europe within the past 14 days, or expect to receive visitors who have been in Europe in the past 14 days, are asked not to go in the vicinity of any campus livestock without taking necessary precautions. Such precautions include disinfection procedures outlined on the Web site of the Canadian Food Inspection Agency at www.inspection.gc.ca. The restriction extends to animal facilities at OAC, OVC, the University's research stations and the affiliated agricultural colleges, as well as any other facilities where livestock are held.

### TEACHING CONFERENCE SET

Teaching Support Services, the College of Arts and OVC host the conference "Collaborative Learning: Opportunities and Strategies at the University of Guelph" May 17 from 8 a.m. to 5 p.m. in Peter Clark Hall. Keynote speakers are Stephen Brookfield of the School of Education at the University of St. Thomas, who will discuss "Becoming a Critically Reflective Practitioner"; and University of Western Ontario English professor Allan Gedalof, who will present "Basic Climatology for the Classroom: Towards an Ethos of Engagement." For more details or to register, visit the Web site www.tss.uoguelph.ca/tli.html.

### LIBRARY HOURS EXTENDED

From April 7 to 20, the McLaughlin Library will be opened extended hours as follows: 8:30 a.m. to 1:15 a.m. Monday to Friday and 10 a.m. to 1:15 a.m. on weekends and Good Friday April 13. Throughout this period, the OVC Learning Commons will be open from 8:30 a.m. to midnight weekdays and 10 a.m. to midnight on weekends and Good Friday. From April 21 to 27, both libraries will be open 8:30 a.m. to midnight weekdays and 10 a.m. to midnight on the weekend. From April 28 to May 6, McLaughlin will be closed to allow the removal of transformers from the building.

# Psychology Student Wins Giuliani Memorial Award

*Recipient lauded for dedication and caring personality*

In addition to a busy schedule of classes and volunteer work, Carin Headrick plays trumpet with the U of G Concert Winds. PHOTO BY MARTIN SCHWALBE

SECOND-YEAR honours psychology student Carin Headrick has been named this year's winner of the Tara Lynn Giuliani Memorial Award.

Tara Lynn Giuliani was a U of G student who lost her sight a few years before she died at age 25 from juvenile diabetes. Her family established the $500 award in 1995 for students who have a disability, demonstrate financial need, have significant academic standing and are involved in extracurricular activities and volunteer work. Preference is given to those students who have a visual impairment.

Headrick, who has been blind since birth, maintains an A average along with an impressive level of involvement in campus life and activities. She serves as secretary for the campus chapter of Save the Children Canada Foundation, volunteers at the Centre for Students with Disabilities (CSD), tutors students enrolled in first-year psychology courses and was an orientation volunteer last fall. On top of all that, she plays the trumpet as a member of the U of G Concert Winds.

"It's been busy," she says. "I just try to work everything in."

Barry Wheeler of the Counselling and Student Resource Centre says Headrick's dedication and "wonderful, caring personality" are much appreciated at the CSD. "She helps us transcribe tapes to disc, labels Braille for us, writes articles for our newsletter and gives us technical support with voice-synthesized programs in our resource room."

For her part, Headrick was influenced to attend U of G because of the good things she'd heard about the University and her initial contacts with the CSD.

"The CSD is so excellent, and the people are so friendly," she says. "You could see they really tried to treat you like a person, not a number."

Her academic ambitions include doing a minor in French and eventually earning a master's degree. She's hoping to spend five weeks this summer in Quebec improving her conversational French skills through a summer language bursary program.

Ultimately, Headrick plans to pursue a career as a counsellor, possibly working with children and families or people with disabilities because "you get to help people, solve actual problems and just be someone they can lean on if they need to."

*BY STACEY CURRY GUNN*

## IN MEMORIAM

### MARGARET HAUSER

Retired microbiology professor Margaret Hauser died Jan. 12 in Guelph. A 1946 BSA graduate and 1948 MSA graduate of OAC, she joined the faculty of OAC in 1946 and retired from the Department of Microbiology in 1987.

### JEAN HILL

Retired U of G personnel librarian Jean Hill died Jan. 1 in Kitchener-Waterloo. A BA graduate of the University of Western Ontario and BLS graduate of the University of Toronto, she joined U of G in 1967 and retired in 1987. She is survived by three children: Jamie, Greg and Barbara; and seven grandchildren. A tree will be planted in her memory Sept. 23 in the Wall-Custance Memorial Forest at the Arboretum.

### ROBERT MCCOLL

Robert McColl, a retired staff member in OVC, died March 16 in North Bay. He joined U of G in 1963 and retired in 1987. He is survived by his wife, Donna; five children: Robert, Margaret, Michael, Catherine and Andrew; 10 grandchildren; and 10 great-grandchildren. A tree will be planted in his memory Sept. 23 in the Wall-Custance Memorial Forest.

### JOHN MACPHERSON

John MacPherson, a staff veterinarian in OVC from 1965 to 1980, died Jan. 24 in Wiarton. He was a 1945 DVM graduate of OVC and is survived by two daughters and a son, all graduates of U of G.

### KATSUMI OSKASHIMO

Katsumi "Kats" Okashimo, founding director of the Institute of Computer Science (now the Department of Computing and Information Science), died March 12 in Guelph. A BA graduate of McMaster University and PhD graduate of the University of Toronto, he taught at Toronto and worked for Ontario Hydro before joining Guelph as the first director of ICS in 1967. He remained in that position for 10 years, then returned to a faculty position until his retirement in 1987.

Prof. Okashimo was also a former commanding officer and honorary colonel in the 23rd (Hamilton) Service Battalion. He is survived by his wife, Mary; four children: Sharon, Colin, David and Robert; and nine grandchildren. A tree will be planted in his memory Sept. 23 in the Wall-Custance Memorial Forest at the Arboretum.

## PEOPLE

### CCFF HONOURS LAM

Prof. Joseph Lam, Microbiology, has been named the Canadian Cystic Fibrosis Foundation's Marsha Morton Scholar as the highest-ranking candidate in the foundation's October 2000 scholarship competition. Named for an Ottawa girl with cystic fibrosis who died at age 12 in 1988, the award recognizes the outstanding quality of Lam's scholarship application and is the most prestigious of the foundation's ranked awards. Lam received a renewable three-year scholarship valued at $60,000 from the foundation for his research on cystic fibrosis and lung infection. The scholarship is designed to provide a faculty member with release time to spend on research.

### ENVIRONMENTAL BIOLOGIST JOINS ADVISORY BOARD

Prof. Jack Trevors, Environmental Biology, has been appointed a Canadian advisory board member to the *Journal of Biological Education*, to assist with its development and promotion. The journal is published by the Institute of Biology in London, England.

### LA STUDENTS WIN FIRST DESIGN COMPETITION

Four U of G landscape architecture students captured top prize in the Aggregate Producers' Association of Ontario's (APAO) first student design competition. The APAO challenged university and college students to create operational and rehabilitation plans for a hypothetical pit or quarry site provided by the association. Mike Salisbury and Tim McCormick won first place for their rehabilitation ideas, and Conor Morris and Paul Hartnett won for their after-use design.

### COLLABORATION CELEBRATED

Prof. Clarence Swanton, chair of the Department of Plant Agriculture, and his wife, Josee, were honoured this month at a dinner hosted in Toronto by Consul General of Japan Hara Satoshi and his wife, Hara Michiko. The Department of Plant Agriculture has agreed to assist the Consulate General with its Sakura Project, a goodwill gesture to propagate Japanese flowering cherry trees and donate them to various public locations across Ontario. The trees are being propagated at the department's Vineland campus.

### GRYPHON TRACK TEAM CAPTURES CIAU MEDALS

At the CIAU indoor track and field championships at Sherbrooke, Gryphons brought home six medals and had six athletes named All-Canadians: Heather Loree, Steve Bendo, Peter Sullivan, Robin Bourke, Trent Stellingwerff and Kyle Desormeaux. Loree captured three medals — a silver in the 60-metre hurdle and bronze in the triple jump and the pentathlon. Silver medals went to Bendo in the 1,500-metre race and the men's team in the 800-metre, and Leslie Carson captured bronze in the 3,000-metre.

# Lack of Resources Hinders Fight Against HIV/AIDS

*Psychology prof works with community members in Cambodia to help intervene in rapidly spreading epidemic*

THE RISING HIV/AIDS epidemic in a northern Cambodian town has prompted a U of G psychology professor to help community members gain access to information and economic resources needed to fight the disease.

Prof. Ian Lubek conducted an action research study — negotiating research goals and methods between the researcher and the community — to determine the extent to which survivors of the past genocide in Siem Reap, a town adjacent to the famed Angkor Wat temples, are increasingly at risk for HIV/AIDS. To do this, he first interviewed community members, all of whom were genocide survivors.

He also explored the availability of adequate medical resources and non-governmental organization resources, and the knowledge base and ability of citizens to organize local solutions to the epidemic.

His involvement in Siem Reap led to the formation of a community-based group in the town, and he is now seeking means to help them establish a computer network and gain access to financial and medical resources.

"It's almost impossible for the people of Siem Reap to access necessary treatment for HIV/AIDS," says Lubek. "The computer network will enable the group to seek advice from international experts, and the financial resources will help obtain basic *antibiotics or perhaps anti-viral* medication for those affected."

While visiting northern Cambodia as a tourist in 1999, Lubek learned of the high-risk lifestyles led by genocide survivors and the looming HIV/AIDS crisis from a male survivor of the Pol Pot Regime (Pol Pot led the Khmer Rouge faction responsible for killing an estimated one-quarter of the population during the 1970s).

Lubek returned to Siem Reap a year later to discuss ways for community members to intervene in the rapidly spreading epidemic. He became involved because there were no local psychologists he could collaborate with to help alleviate the situation; they had been killed or had left Cambodia under the regime.

In February 2000, Lubek conducted a series of 19 in-depth interviews with citizens and doctors. These interviewees had survived the genocide and were aware of the local epidemic and high-risk behaviours. They also knew that because treatments were unaffordable, people diagnosed with HIV/AIDS or secondary opportunistic infections had no access to resources and were faced with rapid and inevitable death.

In his interviews, Lubek learned the virus was being spread mainly by young female sex-trade workers. Tourists and locals seek sexual contact with these young teenage women in brothels, beer restaurants and other entertainment venues, often without protection. More than half of the sex-trade workers are HIV-positive, he says. The local men who have contact with them in turn infect their wives, who give birth to seropositive children, continuing the spread of the epidemic in the community.

Lubek says some educational campaigns now exist in Cambodia, but these generally target high school students, not the genocide survivors or the higher-risk "beer girls," the youngest women in the sex-trade industry, who compete in restaurants to sell their sponsoring international beer brand. The community group believes that safer-sex education should reach high-risk members of the community.

"Group members agreed that a major priority was reaching 100-per-cent condom compliance among the sex-trade workers," says Lubek, who returned to Siem Reap this winter, in part to help organize a workshop on this subject.

The initial pilot study of 19 interviews was sponsored by a grant from U of G's Research Advisory Board and the Social Sciences and Humanities Research Council.

*BY BLYTHE MCKAY*
*OFFICE OF RESEARCH*

# Engineer Has Sound Solution for Noise

*Wall enhancements such as shag carpeting, polyester batting help absorb potentially damaging noise*

THERE'S ROOM in engineering for at least a little nostalgia. Prof. Keith Slater, Engineering, says shag carpeting and polyester batting could make a comeback as sound absorbers, when mounted on the walls of churches, libraries and factories.

Slater has tested and designed noise-dampening materials to help make the workplace quieter and more comfortable for textile factory workers. At plants in Toronto, Hamilton and Brantford, he used fibrous polyester batting glued together and flattened into a one- to two-centimetre-thick sheet (resembling felt) to cover noisy equipment and keep the noise from spreading throughout the factory. He also used shag carpeting to cover the factory walls and muffle the high-pitched whine generated by weaving and spinning machines.

Persistently noisy workplaces are annoying and damaging to the eardrum. And psychological research has shown that constant noise can make workers more aggressive, impatient and intolerant, Slater says.

"By cutting down the noise levels, we're able to reduce these adverse effects on workers."

When designing a noise-reduction system for buildings such as textile factories, he looks at where the noise is generated, what frequencies are the most bothersome and which materials would work best to absorb these frequencies. The ultimate goal is to reduce sound waves to a tolerable level, he says.

Slater has also designed sound-absorbing walls for a church in Toronto, where Sunday school sounds were spilling over into the next room, where the congregation sat. The wall facing the schoolchildren now has a carpet with densely packed fibre loops, which reflects sound energy and keeps the school noise in the room. Behind this carpet is a more loosely packed one that soaks up sound and keeps it from leaking next door.

Slater tested several dozen textile materials, such as acoustic tiles that resemble ceiling tiles, woven fabrics and several types of batting and carpet. He found the best muffling materials were shag carpeting and polyester batting because they bave many small holes and a high surface area, both of which absorb a lot of sound energy.

To test the absorptive ability of various materials, Slater lined a table-top box with the textile material. A loudspeaker generated sound, which was fed into the box with a tube. At the opposite end of the box was another tube, connecting the box to a microphone that picked up any unabsorbed sound. A recording oscilloscope measured how much sound went unabsorbed.

Materials that passed this first trial were tested again in a room the size of a small office, where the walls, floors and ceiling were covered with the test material. A similar loudspeaker and microphone system measured any unabsorbed sound. And that's where shag carpeting and polyester shone.

Being in a room with sound-absorbing materials is noticeably different to the ear, says Slater. The sound seems deadened, with little of the reverberation that is common in rooms without these materials.

"You can feel an oppression in the room," he says. "The sound drops off and dies away instantly."

This research was sponsored by the Natural Sciences and Engineering Research Council and Harding Carpets.

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*OFFICE OF RESEARCH*

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# Designing Students

*Landscape architecture undergrads cap four years of study by presenting design projects*

WALK INTO the Landscape Architecture Building this week and what strikes you is the sense of urgent expectancy, as fourth-year bachelor of landscape architecture students scramble to put the finishing touches to design projects they've worked on for a year.

One student has redesigned the Collingwood waterfront. Elsewhere, a new championship golf course is taking shape in model form, two students and their teacher pensively contemplating a particular dogleg rendered in layered cardboard. Everywhere, oversized blueprints are being turned into detailed three-dimensional models, right down to the stands of miniature trees with cottonball foliage.

In the first week of April, fourth-year BLA students make their final presentations to the school in a place they know well, the centrepiece of the school's life, the amphitheatre-style commons located just inside the building's front doors.

"This area is wonderful because it's so public," says Prof. Nate Perkins at the end of teaching a fourth-year class in the foyer. "Any faculty member or student walking by can come and listen or contribute to the discussion. It helps our fourth-year students become at ease doing presentations, which is important because they could be doing this before a city council in just a few weeks' time. It also helps first-year students, who may just be walking by and decide to drop in to see the sort of projects they'll be doing in a few years."

School director Prof. Maurice Nelischer believes the layout of the Landscape Architecture Building itself plays a big part in the school's sense of family.

Fourth-year BLA students Raymon Yim, left, and Michael Cooper look over a final design project in a School of Landscape Architecture studio.
PHOTO BY MARTIN SCHWALBE

"We hear this from students and graduates, that the building's design encourages interaction among students in discussing their work, making them feel comfortable in exposing their creative ideas. As designers, we believe that form and the quality of the space we inhabit affect the quality of our lives — physical determinism."

Although it would seem to have been custom-designed for the school, the building was, in fact, originally OAC's seeds building when first constructed in 1954 and wasn't renovated for the School of Landscape Architecture's purposes until the late 1960s, with subsequent renovations in 1988 and 1992.

As the building's inhabitants will tell you, landscape architecture at Guelph is less a grouping of academic programs than a culture. It's just, well, cool. Students congregate in friendly groups over each other's projects, chat with faculty on a first-name basis and play ping-pong in one of the high-ceilinged design studios.

In the School of Landscape Architecture, the generation gap is trimmed away like a herbaceous border. Nelischer calls it "vertical integration of the learning process."

With just 135 BLA students, 47 MLA students enrolled in a three-year program and four PhD students, the school puts an emphasis on personalized learning, he says.

"It's very costly to have faculty members dealing individually with students, but it's the only way it can be done. The great advantage we have is that we, as faculty, become very conscious of which mode of learning works best for which student. We change gears with every student we interact with."

Nelischer says a participatory approach is necessary because "you can't design in a bubble. Landscape architecture projects in the real world are vetted by everyone."

It works. The school's faculty have accrued an impressive string of teaching awards over the past five years. Prof. Ron Stoltz won U of G's John Bell Award this year, a prestigious 3M Teaching Fellowship in 1999, the Council of Educators in Landscape Architecture (CELA) Outstanding Educator Award in 1996 and the OAC Alumni Distinguished Teaching Award in 1994.

Prof. Robert Brown was the first recipient of CELA's Award of Recognition in 1997, and Nelischer received a Waghorn Teaching Fellowship and the OAC Alumni Distinguished Teaching Award in 1998. Perkins won a U of G Faculty Association teaching award in 1999.

Guelph's landscape architecture programs are recognized internationally, and graduates are in high demand. The only undergraduate landscape architecture degree offered in English in Canada, U of G's BLA has been ranked in the top five out of more than 70 programs offered throughout North America.

Landscape architecture graduates have a 100-per-cent employment rate, which Nelischer says is just the tip of the iceberg.

"This profession desperately wants to grow, just at a time when many in the profession are reaching retirement age," he says. "The number of graduates we produce from our programs simply does not equal the numbers retiring, let alone the numbers needed to keep up with the expanded demand for landscape architects generally."

Nelischer says his students have to be able to apply knowledge across disciplines. "You have to be a lateral thinker, you have to want to apply your knowledge, and you have to have a sense of humour," he says.

"Students must have a grasp of urban planning, architectural design, construction, utilities, horticultural science and social and behavioural elements, allowing them to bring the physical, environmental and human dimensions to their designs."

And, typically making two presentations a year to the entire faculty and classmates, students have to be confident enough to make public presentations, as the fourth-years are doing next week.

"They put their hearts on their sleeves when they give a presentation," says Nelischer. "It's as much an emotional exercise as it is intellectual."

*BY ALEXANDER WOOLEY*


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# View From the Farm

*"Farmers deserve and need a decent return on their investment to survive, the same as any other urban business operation with a million-dollar investment"*

By Jayne Dietrich

As a dairy farmer and president of the Bruce County Federation of Agriculture, and a former Wellington County farm girl, I take very seriously the desperate situation of our Canadian farmers. I participated in the March 14 Day of Action not by choice, but because we, producers and consumers, must maintain a viable food industry in Canada. Here at the grassroots of agriculture, we have been forced to take hold of this unfolding tragedy.

Canadian farmers produce affordable high-quality food. We lead the world in food safety and traceability programs. We also lead in low food prices. Farmers are doing a great job under extremely tough circumstances — poor weather and greatly increased input costs.

On top of this, add low commodity prices due to the subsidy levels of our competitors, the United States and European Union (EU) farmers. Canadian farmers are among the lowest-subsidized in the world, yet we continue to supply high-quality food to Canadian consumers.

But it can't continue like this. Hefty subsidies provided to U.S. and EU farmers by their governments have forced global prices down to the point where our farmers cannot recoup their cost of production.

For every $1 of government support to the Canadian farmer, the U.S. farmer receives $2.15, farmers in the European Union get $2.06, and farmers in Japan receive $3.

My husband, Ralph, and I, with the help of our children, are milk producers. The price of milk is only slightly higher than that of bottled water, but I can tell you we spend considerably more time and money producing a litre of milk than the bottling company spends on a litre of water.

Canadian farmers are receiving a return equity of 0.3 per cent. No industry can survive with such a low return. The merger of major food distributors has resulted in three companies controlling 75 per cent of food distribution in Canada. Let's talk about return on equity: General Mills, 222 per cent; Quaker Oats, 165 per cent; Kellogg's, 53 per cent; Weston's, 37 per cent; Royal Bank, 18.3 per cent; and Shell Oil, 13 per cent. And still these companies strive for an even greater return on equity.

In a 300-gram box of wheat crackers, the farmer's share is four cents. For a 675-gram loaf of whole wheat bread, we receive eight cents, and for a 675-gram box of cornflakes, we get nine cents. Farmers deserve and need a decent return on their investment to survive, the same as any other urban business operation with a million-dollar investment.

To our consumers, I would like to stress the importance of purchasing Canadian-grown products. Under the North American Free Trade Agreement, Canada, the United States and Mexico agreed to accept each other's food standards, but an industry survey identified 12 chemicals used in production and processing of food in Mexico that are banned in Canada, and the following year identified 17 chemicals used in Mexico that are banned in the United States. Canadian-grown products can assure the high level of safety consumers deserve and expect.

ILLUSTRATION BY JACKIE BESTEMAN

There is much at stake. Extremely low commodity prices and lack of support from our government threaten much of rural Ontario's existence. As a consumer, please consider the value of our domestic food supply, the farmers that produce it and the importance of our communities. Relay your concerns about your Canadian food supply to our government and insist that they take our farmers seriously.

> *"A $1-dollar investment in agriculture brings a sevenfold return through the gross national product in one year. I challenge the government to ensure a sevenfold return on other tax dollars spent. It's time our government realized the best way to invest in Canada is to invest in agriculture."*

We appreciate our consumers' support in the supermarket, in the media and in the ballot box. If you were inconvenienced by the farmers' Day of Action, please consider how inconvenient it is for farmers who must take off-farm jobs to feed their own families while providing safe and affordable food for your families. It's a tragedy that for the last several years, the average Canadian farm family earns more from off-farm jobs than from their farm operation. These off-farm jobs are subsidizing the cost of producing food for the Canadian public.

To our politicians: We appreciate our members of parliament who have supported farmers, trying to convince federal cabinet ministers of our critical need. Unfortunately, their efforts thus far have been ineffective. The federal cabinet still chooses to allow a critical segment of our society and our economy to suffer. The time has come to play hardball. If our members of parliament would withdraw their support from the government, the help would come quickly. This very thing happened when 10 members of parliament refused to support a budget in the early 1980s, and changes were made immediately.

Saddest of all are the young people — the new generation of Canadian food producers who see that it's not financially feasible to undertake farming as their career. We have six children, two of whom are enrolled in the agricultural degree program at the University of Guelph, and they've all given their sweat and time to help make our family farm prosper. We've taught them that farming is an honourable profession, but establishing and prospering on a farm is a business venture. When our children look at the high cost of establishing a farm, the low economic return, the commitment of time without days off and the lack of benefits that most other occupations offer, they turn away from the farm. The message from our young farming generation should be the strongest message to our government.

The Canadian farmer has tried to voice concerns to the cabinet, as well as to our minister of agriculture, Lyle Vanclief. We are told the purse strings of this country are torn in many directions. A $1-dollar investment in agriculture brings a sevenfold return through the gross national product in one year. I challenge the government to ensure a sevenfold return on other tax dollars spent. It's time our government realized the best way to invest in Canada is to invest in agriculture.

For me, the Day of Action was about building a connection between farmers and consumers. It was about convincing consumers to buy Canadian-grown food from Canadian farmers they know and trust. It was about the government committing to protect and support us.

At the international trade negotiations, our government says: "We are playing by the rules," but the other countries are not. Well, that's just not good enough. Our government must protect us from unfair trade practices. If they cannot or will not protect Canadian farmers from unfair competition by subsidized agriculture in other countries, then our government must support us.

The prime minister has said that farmers "are part of the Canadian family, and when a family member hurts, the rest of the family rallies around them." Well, Mr. Chrétien, you can start rallying, because we are hurting.

*Jayne Dietrich and her family operate a dairy farm near Mildmay, Ont. She is president of the Bruce County Federation of Agriculture and the mother of two U of G students enrolled in OAC degree programs.*

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PROFILE

# SITTING DOWN FOR A CUPPA SUITS HER TO A TEA

*Author is steeped in the history, rituals and traditions of drinking tea*

BY LORI BONA HUNT

MELODY WREN still isn't exactly sure when the transformation occurred. It seemed like one moment she was working in the OVC's dean's office, dreaming about opening a tea room, when her contract expired. And the next moment, she was jetting off to New York City as the only Canadian recipient of an International Association for Culinary Professionals grant to write a book on the health benefits of tea.

Somewhere in the four years between those two moments, she wrote a book on tea rooms of Ontario, started a newsletter for tea enthusiasts and had articles on tea published internationally in newspapers and magazines. She created original tea blends that are so popular, some places can't keep them in stock. She started giving professional seminars and workshops as far away as England on the history, rituals and traditions of drinking tea. And she began teaching continuing education courses on teas and tea rooms.

And before she knew it — before she was even really aware it had begun — the transformation was complete. Wren had become "Canada's Tea Lady."

"My parents are British, I grew up drinking tea, and I've always liked it," she says, "but it wasn't what I planned on doing with my life."

But Wren, who recently returned to U of G to work part time for Prof. Donna Woolcott, assistant vice-president (academic), decided to give in to her alter ego a few years ago. She ordered a custom-made "tea lady" outfit to wear for appearances: a long brown dress, a chocolate brown velvet full-length coat with fancy trim, a matching velvet hat and, of course, tea-dyed gloves.

"It was around the time bookstores started asking me to give talks," she says. "I was scared to death. I didn't have any public-speaking experience, had never been before a large group, but I figured I should look the part. I also enrolled in some public-speaking courses."

Her talks became so popular that Wren now commands a professional speaker's fee for showing up in that outfit and sharing her knowledge of tea. And she doesn't disappoint. She knows everything there is to know about tea, absolutely *everything*, from how legend has it that tea was discovered accidentally by the priest who founded Zen Buddhism, to how the tea bag was invented (a merchant sent out tea samples in silk bags that his confused customers plopped into hot water), to which teas contain the most caffeine.

She's also a walking encyclopedia of tea statistics. Did you know, for example, that 88 per cent of adults drink tea? Or that seven billion cups of tea are consumed each year in Canada alone?

Wren says tea was first discovered about 5,000 years ago in China. "It didn't even make its ways to England until about 1662." But when it did, it caused quite a stir (no pun intended). "It was considered a drug; it was linked in with opium. People were unsure of it and what effect it might have."

PHOTO BY DEAN PALMER/THE SCENARIO

But tea rooms were instantly popular with women, she says. "Men used to gather in coffee houses or 'penny universities' as they used to be called, but women weren't allowed. When tea rooms opened, they were the only places where it was acceptable for a woman to be seen on her own. And it was acceptable for women to drink tea at a time when drinking coffee or spirits was not."

Tea parties also became popular, but only among the rich and elite. "The everyday person couldn't afford tea because it was so expensive. The cost was equivalent to paying $1,000 for a pound of tea today."

This is the kind of information Wren collected on her research trip to New York last month. She wanted to find out what people living in the 1600s had to say about tea, especially its medicinal effects. She got special permission to look at old books housed at the New York Academy of Medicine that are so rare, her husband, OVC biomedical sciences professor Jeff Thomason, wasn't even allowed to ride up in the elevator with her because his name wasn't included on the list of researchers.

Wren plans to incorporate some of what she learned into her book *Tea and Your Health*, one of two books she has coming out this fall. It will examine the physical and mental health benefits of the more than 200 natural compounds found in tea. "Most of the health benefits come from the antioxidants in tea," she says, adding that the benefits range from improving cardiovascular health to helping prevent strokes and cancer. The book will also focus on the rituals and customs associated with tea time.

The second book, *My Tea Party*, will offer numerous ideas for theme tea parties, covering everything from invitations, menus, simple recipes and games to the types of tea to serve and, of course, what to wear.

Her first book, *Melody Wren's Tea Rooms of Southern Ontario*, was published in 1998. "I was thinking of opening a tea room and wanted information about where other tea rooms were, but there wasn't anything, so I thought: 'This has to change. Now I'll have to write a book.'"

She ended up visiting more than 200 tea rooms in southern Ontario, learning about many of them through word of mouth. That book started it all. Soon, bookstores were asking her to speak and do book signings, which led to seminars, workshops and other appearances. At times, she has given as many as 15 talks in a month.

She also started *The Charms of Tea*, a newsletter published four times a year, and began teaching a continuing education course that introduces people to the business of opening a tea room, including creating ambiance and foods that complement tea blends.

"I didn't think anyone would register for that first course offered, but it filled up," she says. It was so popular, in fact, that her students wanted to continue beyond the four weeks of classes, so she's designing a second follow-up course that will begin in May.

Wren has also developed six original tea blends with help from a master tea blender in Fergus. They're sold locally in shops such as the Bookshelf. And she has created blends for one-time special occasions such as the International Plowing Match, as well as for museums and various fund-raisers.

She attributes some of her success to what she calls the current wave of tea's popularity, linked largely to its health benefits and people's longing for a slower pace of life.

"I think people are getting tired of the fast-food, drive-though, take-out hectic pace of life," she says. "The idea of taking time for tea evokes an atmosphere, an ambiance. You almost start to relax just thinking about it, and your blood pressure drops a notch."

Her next project? She's working with a travel agent who read her book and wants help designing a cruise with a tea theme. Wren will also be on board, giving tea talks and workshops on "Tea on the High Seas."

"I thought I'd heard it all," Wren says with a laugh. "I mean, who would have thought of that?"

After that, she plans to focus on her writing. As for the dream of opening a tea room? "No time now. I'm just enjoying all the different avenues that tea has opened up in my life."


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# Animal Health Lab Is Early Warning System That Finds New Diseases, Monitors Trends

*Lab provides policy- and decision-makers with information on existing and emerging diseases to aid planning and response*

THIS WINTER, many people were warned to get a flu shot for a particularly nasty strain of virus that was known to be on the way and could spread to thousands. Animals in Ontario have a similar early warning system in place monitoring their health — U of G's Animal Health Laboratory (AHL).

Each year, AHL staff discover new or emerging diseases and viruses. "This can be a one-off influenza we've never seen before and will never see again or an emerging disease that until now has been present only at low or quiescent levels," says Beverly McEwen, a veterinary pathologist and surveillance specialist with AHL.

To prove her point, McEwen produces a table listing more than two dozen diseases and viruses that have been discovered over the past 20 years by AHL, which is part of the University's Laboratory Services Division (LSD).

Frequently, AHL's timely detection and reporting alert decision-makers to health status changes in Ontario animals. Responsive actions taken to reduce the risk of infection can prevent widespread epidemics affecting either the animal or human population. Examples include a bronchial virus strain affecting poultry that was first detected in 1980 and has shown subtle genetic changes over the past five years, changes that have been steadily tracked by AHL. In 1996, AHL was the first laboratory in Canada to identify *Eperythrozoon ovis*, a sheep parasite that destroys the animals' red blood cells, causing severe anemia and jaundice.

In 1997, AHL and Health Canada identified a strain of salmonella, *Typhimurium* DT104, that was resistant to at least five different antibiotics, in several Ontario cattle, swine and poultry.

"This particular type of salmonella can be a major health problem for people," says McEwen, "and this strain was already a major public health issue in Great Britain because of its resistance to antibiotics. We were fortunate to be able to work with the Health Canada lab responsible for food-borne zoonoses and detect it early enough, so that AHL and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) could alert producers, veterinarians and public health officials, who took the appropriate remedial action."

An ongoing case sees AHL monitoring a new form of avian influenza that usually occurs in ducks but was detected and isolated from a swine herd in Ontario. Collaborating with researchers in the United States and England, AHL virologist Susy Carman was able to confirm this as the first documented recovery of a wholly avian influenza virus from pigs in North America.

"We're able to monitor the situation and isolate the virus, and we can address the human and animal health concerns," says McEwen. "In addition to these benefits, from an economic point of view, having this system in place means we can continue to trade poultry to other jurisdictions because we have the proven detection methodology in place."

Each year, seven million cases of human food-borne illness are reported in Canada, outbreaks that can be attributed to the more than 100 known zoonotic and/or food-borne germs and pathogens that form fully 30 per cent of all federally reportable diseases in people.

"Many people don't realize the widespread potential impact of an animal disease," says McEwen. "A single disease can affect the animal itself, the farmer and the industry as a whole and can have potential trade implications with other jurisdictions. Then, if the disease in question is zoonotic — transmissible to humans — we have an even bigger challenge on our hands, which is why we see much of our role as being that of public health."

One example is mad cow disease. "Bovine spongiform encephalopathy, BSE or mad cow disease is an example of a disease that has had a devastating impact on the animal and public health and economy of other countries," says McEwen.

"Our lab is part of the national surveillance infrastructure for BSE, and our pathologists are vigilant in their surveillance for this disease. In looking for changes in disease patterns, we determine not only what we have, but perhaps as important, what we do not have in this country as well."

AHL conducts 600,000 procedures annually. To keep historical track of past diseases, the lab has a sophisticated database that allows McEwen and others to monitor patterns to see whether a disease has appeared before and to predict the impact of a new disease. It also permits the lab to monitor trends in the frequency of appearance of pathogens like salmonella.

McEwen believes that a combination of factors permits AHL staff to screen more new and emerging diseases than ever before.

> *"Many people don't realize the widespread potential impact of an animal disease. A single disease can affect the animal itself, the farmer and the industry as a whole and can have potential trade implications with other jurisdictions."*

"We have much better, much more sensitive tools, and this, combined with better techniques than 10 years ago, means we are able to discover more diseases than even a decade ago."

This is vital because, as the diets of Ontarians become increasingly diverse, AHL surveillance specialists also have to keep up with diseases that affect "alternative species" such as the elk and deer in Saskatchewan affected by chronic wasting disease.

A primary client of AHL's animal health surveillance service is the private veterinarian. In a typical scenario, a farmer would recognize a problem with an animal that had died and send it to the lab. An AHL pathologist would then perform a post-mortem and determine which of 400 diagnostic tests should be used to arrive at a cause of death. The producer's veterinarian is also kept informed of the problem with test results as they are generated.

"AHL's primary role is to help solve the problem and arm the vet with information so that he or she can vaccinate or treat the other animals on the affected farm," says McEwen. "By collating information from many farms, we can determine geographic and temporal changes in disease patterns across the province."

AHL provides OMAFRA's policy- and decision-makers with information on existing and emerging diseases to facilitate required planning and response, and performs the same range of diagnostic services for the companion and farm animals sent to the Veterinary Teaching Hospital at OVC.

"AHL and the regulatory unit of LSD provide the testing services that support a safe food supply for Ontario consumers," says Pat Collins, general manager of Lab Services. "It is a primary source of information for animal disease surveillance. Our staff help producers identify and remove potential threats that could devastate the industry and make their way into the food system. AHL is widely recognized as an important resource for livestock and poultry producers, the veterinary community and OMAFRA."

Staff also handle requests from foreign countries wanting proof that the Canadian animals they're importing are safe. This includes poultry headed for Russia, swine going to Australia and thoroughbred horses being exported to England.

*BY ALEXANDER WOOLEY*

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# Food Programs Reap Benefits Beyond Nutrition

*Children develop social skills, make friends while attending breakfast and after-school programs*

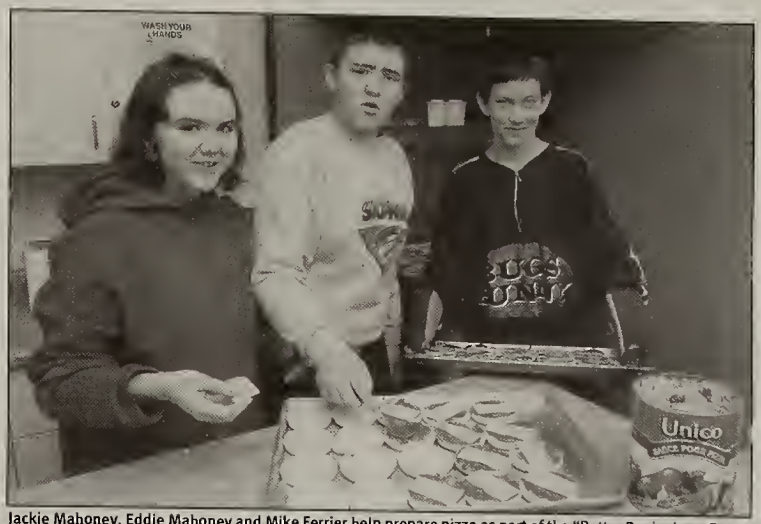
COMMUNITY-BASED food programs meant to improve nutrition for children in low-income neighbourhoods are having multiple social and educational benefits for children and their parents, say two Guelph researchers.

Prof. Susan Evers and graduate student Gayle Edward of the Department of Family Relations and Applied Nutrition say children are getting healthy food, developing social skills and making friends while attending breakfast and after-school programs.

"The children are learning what foods should and should not be part of a nutritious breakfast or snack," says Evers. "They've also been introduced to traditional foods of different cultures."

The researchers hosted discussion groups with teachers, parents, project staff and children involved with various food programs that have been operating since 1994 in Guelph, Cornwall and Etobicoke. These programs, which are supported by the province and are set up and run by community members and staff, provide families with food resources, give children free nutritious breakfasts each day before they start school and often offer after-school programs.

Teachers and principals report that children arrive at school more alert and ready to learn after the nutritious breakfast they have received.




Jackie Mahoney, Eddie Mahoney and Mike Ferrier help prepare pizza as part of the "Better Beginnings, Better Futures" program.
PHOTO BY MARTIN SCHWALBE

Parents have reaped benefits, too. The programs rely heavily on parent volunteers, who design the menus and oversee the initiative.

"This active participation creates a sense of community ownership," says Evers. "Parents don't feel stigmatized for receiving food or for their children participating in these programs, because they are recognized as making an important contribution."

Evers says project staff noted that the breakfast programs were a good tool to identify new children and their families in the neighbourhood. Through the children, the directors contacted their families and helped them get connected with the community, which was especially helpful for new immigrants, she says.

Evers adds that an area for improvement is the need to reach out to different cultural groups and to be sensitive to different food habits and preferences.

In Guelph's Willow Road area, the Breakfast Club program is one of numerous food, child-care, parenting, after-school and leadership training programs. These include day camps, play groups and youth drop-in centres, all offered free of charge to children ranging from infants to teenagers and to parents. About 400 families in the northwest area of Guelph make use of the programs and have culturally diverse backgrounds. Project staff speak 11 languages.

These community programs began 10 years ago as part of the "Better Beginnings, Better Futures" project, with support from the provincial government. They address children's social, emotional, nutritional and physical needs with the goal of putting them on a path towards a healthy and productive adulthood. Similar programs are helping families in seven other communities across Ontario. Provincial funding is used primarily for infants and parents. Only through fund-raising is the Guelph program able to provide services for school-aged children.

The community members and staff who oversee and operate these programs also work in partnersbip with researchers like Evers from five Ontario universities wbo are studying the impact of these prevention programs on children and parents.

This research was sponsored by the Ontario Ministry of Community and Social Services, the Ministry of Health and the Ministry of Education.

*BY CORIE LOK*
*OFFICE OF RESEARCH*

# Network Will Bring Together Diverse Research on Water

*Continued from page 1*

Geography, are leaders for the "Building Local Capacity to Provide Clean Water" project within the policy and governance area. Profs. Hung Lee and Jack Trevors, Environmental Biology, are leaders for the "Molecular-Based Detection of Water-Borne Pathogen *Cryptosporidium parvum*" project within the drinking water and health area.

Other U of G researchers who have received funding through the CWN are: Profs. Nigel Bunce, Chemistry and Biochemistry; Chris Hall, Environmental Biology; Stewart Hilts, Gary Parkin and Mike Goss, Land Resource Science; Vinay Kanetkar and Karen Finlay, Consumer Studies; Glen Van Der Kraak, Zoology; and Alfons Weersink, Agricultural Economics and Business.

"This is a wonderful opportunity for Guelph researchers to bring together the University's diverse research on water," says Heathcote. "It's one of the few mechanisms we have to focus a broad spectrum of work on a single environmental medium."

The $14.9 million in funding is for a four-year term, at which point the network will be evaluated for additional funding.

Guelph researchers from a dozen departments across campus have expertise applicable to the CWN's mission and will be eligible to apply for funding under its auspices in future years. Within the resources management and environment program of the enhanced partnership with the Ontario Ministry of Agriculture, Food and Rural Affairs, U of G conducts research on the governance of ensuring water quality, the improvement of our understanding of the biophysical process taking place in riparian zones and wetlands, onsite waste-water treatment, and the movement and identification of biological contaminants in animal manure. Expertise in other departments includes water allocation and valuation, aquatic ecosystems, drinking-water quality and treatment, and industrial and municipal waste-water management.

"The quality and safety of our drinking water is a top priority for Canadians," says CWN scientific director Robert Gillham of the Department of Earth Sciences at the University of Waterloo. "Our research will focus on the effects of global climate change, declining water levels, and land use and its impact on Canada's supply of clean water."

The Networks of Centres of Excellence of Canada are unique partnerships among industry, universities and government. They develop innovative research programs to address critical economic and quality-of-life issues.

The other new networks are the Automobile of the 21st Century, the Canadian Language and Literacy Research Network, and the Stem Cell Genomics and Therapeutics Network. They bring the number of networks in the NCE program to a total of 22.

The NCE program is jointly administered by the Natural Sciences and Engineering Research Council, the Canadian Institutes of Health Research and the Social Sciences and Humanities Research Council, in conjunction with Industry Canada.

*BY STACEY CURRY GUNN*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## STUDENT ALUMNI AMBASSADORS

***Five positions available***

***Location:*** Alumni House, University of Guelph
***Contract Period:*** April 23 to Aug. 30, 2001
***Salary:*** Up to $10/hour for a 35-hour week; some evening and weekend work required.

***Job Description:***

- Help plan and co-ordinate alumni events and activities, including Alumni Weekend 2001. Support alumni volunteers and staff in planning class reunions and other events.
- Budgeting, data collection and entry, program planning, preparing and installing signage, cleanup and other associated activities as assigned.
- Co-ordination of registration information and mailing, and support of regular staff activities during vacation periods.
- Post Alumni Weekend, there may be the opportunity to work with alumni and development staff in one of the colleges.

***Qualifications:***
Organizational skills, attention to detail and an enthusiastic team spirit. Events experience is an asset.

***Application:***
Application forms are available at Alumni House, located on Arboretum Road, and should be returned with a résumé and cover letter. Identify strengths and interests relevant to this position. Selected candidates will be phoned for an interview.

***Deadline:***
April 10, 2001

***Contact:***
Alumni House
Attn: Alumni Ambassadors Hiring Committee, University of Guelph
E-mail: jbrett@alumni.uoguelph.ca.


# SENATE REPORT

had postponed an April 2000 decision to permanently hold spring convocation in the new covered athletic field house. Mancuso said that since last April, the committee has realized it needs more information on air temperature, circulation and quality in the field house, as well as how heavy rain would affect sound inside the facility. Until these factors are known, the committee has decided to postpone convocation's move to the field house until spring 2002.

### TWO MORE HUMBER PROGRAMS APPROVED

In Board of Undergraduate Studies (BUGS) business, Senate approved two more programs that, depending on government approval and funding, may be offered by the joint U of G/Humber College initiative. They are a BAA in justice studies and a B.A.Comp. in distributed computing and communications systems technology.

A motion to bring the continuation-of-study rule for co-op programs in engineering in line with requirements applying to other undergraduate studies was tabled pending further consideration by BUGS. Currently, undergraduate students must maintain a 60-per-cent average to continue their studies at U of G, but some co-op programs, including engineering, require a 70-per-cent average. The motion proposed bringing the engineering co-op's requirement to 60 per cent.

### COU ACADEMIC COLLEAGUE REPORTS

Accompanied on the keyboard by Prof. Mary Woodside, Fine Art and Music, Mancuso closed the Senate meeting — and brought down the house — by singing the following report on recent COU activities (with apologies to Gilbert and Sullivan and giving credit to Tom Lehrer's song *The Elements*):

*I am the very model of a colleague academical*
*I've information social, biological and chemical*
*At COU, I serve as your elected representative*
*The resolutions made there range from firm to merely tentative*

*I've been to all the meetings and I've watched the games political*
*I've learned to view relationships with ministries as critical*
*I sit on two committees and discuss what Queen's Park cuts and trims*
*I recognize and understand obscure and complex acronyms*

Chorus:
*I know the ways and means of giving updates Senatorial*
*In written prose and spoken verse and formats oratorial*
*In short, in matters social, biological or chemical*
*I am the very model of a colleague academical*

*At COU, they publicize our value economical*
*The fiscal gains we generate are truly astronomical*
*Expenditures on students and research are potent stimuli*
*The gains from funding other forms of effort are just not as high*

*Our gross domestic product as a sector is exceptional*
*Exceeding products plastic, paper, textile and electrical*
*We also beat out chemicals and fabricators metallous*
*The NASDAQ and the TSE have tanked, but you can count on us!*

(Chorus)

*The logic of the COU's assertions cannot be denied*
*Investing in the system yields a benefit that's multiplied*
*In short, as far as generating jobs of great diversity*
*There's really nothing better than a public university.*

*The COU is emphasizing our accountability*
*Efficiency, effectiveness and evident utility*
*The facts and figures in the brief are truly unassailable*
*Feel free to ask me afterwards — more copies are available*

(Chorus)

*In other news, the OUAC is debuting its facility*
*Their Web-based application system's growing quite substantially*
*The ribbon-cutting's set for May and to it they've invited all*
*So stop off at their open house — it's on your way to Stone Road Mall*

*The double cohort looms, and we are threatened by demography*
*In faculty recruitment, we are hampered by geography*
*Enrolment is exploding and it's not clear if it ever stops*
*In Phoenix, private institutions look at us and lick their chops*

*Announcements as to operating funding are erratical*
*Continued operation of the system's problematical*
*I'm growing rather tired of this government piratical*
*I think it's time I thought about beginning my sabbatical*

(Chorus)

*Forgive me if this COU report is ungrammatical*
*Or overdone or otherwise unduly operatical*
*I hope I've made it clear that all these problems are endemical*
*Without, I hope, descending to a rhetoric polemical*
*In short, in matters social, biological or chemical*
*I am the very model of a colleague academical*

# CLASSIFIEDS

## FOR SALE

Female German shepherd puppy, six months old, black and tan, gentle and well-trained, spayed, vaccination completed, large cage included, 836-7986 after 6 p.m. or send e-mail to eyjeong@yahoo.co.kr.

Two-bedroom house/cottage in Haliburton, more than an acre of property, 1½ baths, oak kitchen, woodstove, propane stove and water heater, close to Sir Sam's Ski Resort, snowmobile trails and Eagle Lake, Laura, Ext. 2264.

Three-bedroom house, 15-minute walk to campus, close to bus, finished basement, central air, dishwasher, 822-9197.

Window air conditioner, 9,000 BTU, works great, 836-9241 or marlene@uoguelph.ca.

Window air conditioner, 8,000 BTU, less than one year old; large dog cage with base pan; toaster; two shop vacuums, 787-2797 or send e-mail to wfung@uoguelph.ca.

Reel-to-reel recording tape, large quantity from recording studio, reasonably priced, Ext. 3504 or send e-mail to hdavis@uoguelph.ca.

King-sized waterbed with bookcase headboard, wicker rocking chair, 14-inch DataTrain computer monitor, free 15-inch AcerView 55L, DOOM IT, DukeNukem 3D, Stonekeep, Adobe PageMill 2.0, floor lamp with gold stand and black shade, Ext. 8566.

Man's 26-inch 12-speed bicycle, girl's 24-inch 15-speed bicycle, both in good condition, Ext. 6446, 3336 or 767-6057 after 5 p.m.

1999 Chrysler Cirrus LXi, 12,000 kilometres, remaining warranty; six-bedroom home as rental property, two baths, completely upgraded, fully rented if desired, 836-9236.

Dresser, sofa, new Bouncing Buggy, coffee table, accent lamp, two study tables, crib, chairs, bike, end tables, child safety gate, 823-5460.

1999 Honda CRV LX, red, air, cassette, power windows/locks, 20,000 km, 760-2285.

Three-bedroom house, cathedral ceilings, open concept, main-floor laundry, two-car garage, deck, 837-3726 or send e-mail to m_rogers@sentex.com.

## FOR RENT

Three-bedroom south-end house, 2½ baths, close to campus, garage, central air, suitable for young family, non-smokers, no pets, available Sept. 1, $1,600 a month plus utilities, 767-1312 or send e-mail to rvisvwana@uoguelph.ca.

Two-bedroom cottage just north of Sauble Beach, dishwasher, propane barbecue, TV/VCR, suitable for four people, non-smokers, no pets, $500 a week, 763-1236 or send e-mail to bardwell@vth.uoguelph.ca.

Five-bedroom century home on Glasgow Street, two baths, gas heat, laundry, water softener, non-smokers, no pets, $1,875 a month plus utilities, 824-7754.

One bedroom in adult home, central air, laundry, parking, private patio, separate entrance, available May 1, $625 a month plus portion of hydro, references, first and last month's rent required, professional adult preferred, 823-0331 after 5 p.m.

Three-bedroom century home on quiet street near downtown, newly renovated kitchen, laundry, porch sunroom, non-smokers, $1,500 a month inclusive, 836-9918.

Three-bedroom apartment in upper level of house with one-year lease, balcony, renovated bath, private entrance, laundry, garage, available May 1, showing April 4 and 5, $1,000 a month inclusive, Jamie, 847-867-9238.

One bedroom in shared house, close to campus, suit mature female student, available May 1, 836-9236.

Large basement bedsitting room in shared house behind Hartsland Zehrs, private bath, bus stop at door, parking, laundry, available for May, $400 a month, Jen, leave message at 766-6046.

Three-bedroom house, 1½ baths, 20-minute walk to campus, bus stop at door, washer/dryer, suitable for family or three students to share, available May 1, $1,200 a month inclusive, 836-8961 or send e-mail to trosenda@uoguelph.ca.

One bedroom in shared house, two blocks from campus, suit a mature female student, available May 1, 836-9236.

Older four-bedroom house on King Street, available September to December 2001, non-smoking, with friendly family cat, $1,500 a month plus utilities, 767-1333 after 7:30 p.m.

Furnished upscale four-bedroom home in south end available for short-term accommodation, air, ensuite laundry, Jacuzzi, non-smokers, no pets, available June to end of August, $1,500 a month inclusive, Carol, 823-1857, 362-1857 or cmthompson52@hotmail.com.

Bright basement room in new house in south end, shared living room, kitchen, bathroom and laundry, close to Zehrs, non-smoker, no pets, available immediately or in the fall, $360 a month inclusive, Grace, Ext. 4021, 766-4638 or send e-mail to gadamska@ovc.uoguelph.ca.

## WANTED

Used one- or two-person lightweight kayak, paddle included, reasonable price, Joy, Ext. 4800 or send e-mail to joy@uoguelph.ca.

Summer student with experience in molecular genetics to work in corn genomics lab in Guelph this summer, Ext. 3396 or send e-mail to raizada@uoguelph .ca.

Two quiet, non-smoking mature students need accommodation for September to December 2001, looking for either one two-bedroom apartment or two one-bedroom apartments, 763-2235 or jgiacint@uoguelph.ca.

One-bedroom apartment for mature female student for Sept. 1, preferably furnished, non-smoker, references, leave message at 836-8681 or send e-mail to kentishm@nt.net.

Roommate for May 1, close to downtown, 20-minute walk to campus, close to laundry, groceries and bus, no lease, $288 a month plus utilities, 822-5735 or send e-mail to rstranbe@uoguelph.ca.

Inexpensive furnished one-bedroom apartment for young professional couple for summer sublet, prefer to move by mid-April, no pets or children, send e-mail to jessica_patrick@hotmail.com.

Furnished or unfurnished four-bedroom house for two young couples for May 1, close to campus, laundry, parking for one car, will pay up to $1,600 a month inclusive, Tanya, leave message at Ext. 76545 or send e-mail to tjones01@uoguelph.ca.


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# EVENTS

## ARBORETUM

The Arboretum Auxiliary's series of seasonal Sunday afternoon walks continues April 1 with "Only April Fools Bark Up the Wrong Tree" and April 15 with "Early Spring Discovery Tour." The walks leave from the Nature Centre at 2 p.m. and are free, with a suggested donation of $3 per person.

Naturalist Chris Earley presents a workshop on warblers April 25 from 9 a.m. to 4 p.m., to be followed by a morning field trip to the Arboretum May 12 to view warblers and other spring migrants. Cost is $63. Registration and payment are required by April 11. A second workshop on less common warblers runs May 3 from 9 a.m. to 4 p.m. Cost is $45. Registration deadline is April 18.

## CONCERTS

The Thursday noon-hour concert series continues March 29 and April 5 with student soloists in MacKinnon 107. Admission is free, but donations are welcome.

U of G student winners of music scholarships will perform March 30 at 8 p.m. at the Macdonald Stewart Art Centre. Tickets are $5.

The School of Fine Art and Music and the Macdonald Stewart Art Centre present an evening of romantic German music March 31 at 8 p.m. at the art centre. Tickets are $5.

The U of G Concert Winds led by John Goddard and the U of G Choir conducted by Marta McCarty perform April 5 at 8 p.m. at the River Run Centre. The choir presents "Love Song Waltzes" by Bruckner, Rutter and Kunz. The Winds will perform works by Stravinsky, Vaughan Williams and Copland. Tickets are $16 and $8 and are available by calling 763-3000 or in MacKinnon 210.

Larry Beckwith leads the U of G Early Music Ensemble in a performance of Handel's *Acis and Galatea* April 6 at 8 p.m. at Dublin Street United Church. Tickets are $8 at the door or in MacKinnon 210.

Applied music students will give their final recitals next month in MacKinnon 107. On April 9, pianist Erin Coffey will perform at 3 p.m. and baritone Thomas Rosendal and soprano Kelly Mayell will perform at 7 p.m. A recital featuring baritone Dominic Gregorio and mezzo-soprano Natasha Croskell is slated for April 10 at 7 p.m. On April 11 at 7 p.m., flutists Kathleen Duncan and Nina Kozak perform.

## CONFERENCE

Part 1 of a conference on "Women's Same-Sex Partner Violence" runs March 31 from 9 a.m. to 5 p.m. in UC 103. For information or to register, call the Women's Resource Centre at Ext. 8559.

## FORUM

The School of Languages and Literatures Forum features Prof. Kari Grimstad speaking on "The Correspondence of Arthur and Olga Schnitzler: The Editor as Narrative Midwife" March 29 at 4 p.m. in the University Club.

## LECTURES

The Axelrod Institute of Ichthyology launches the Marcel N. Ali Lectures April 4 at 7 p.m. in Thornbrough 1200. Guest speakers are Bev Scott and Ed Crossman, authors of *Freshwater Fishes of Canada*. Scott will discuss "Development and Current Status of the Atlantic Reference Collection." Crossman's topic is "Canadian Freshwater Fishes: All Foreigners?" An informal reception to meet Scott and Crossman will be held April 3 at 7 p.m. in Axelrod 265A.

The School of Literatures and Performance Studies in English and the College of Arts dean's office present Susan Buck-Morss of Cornell University discussing "Dreamworld and Catastrophe" March 29 at 4:30 p.m. in MacKinnon 107.

The U of G Christian Forum presents a lecture by Ashley Null, a former research fellow and chaplain at the London Goodenough Trust in London, England, April 9 at 5 p.m. in UC 103. His topic is "Good News Worth Dying For? Thomas Cranmer's Theology of Love."

## NOTICES

Campus Multi-Faith Resources is launching a lecture series that invites faculty to speak about their lives, beliefs and work as though giving their last lecture ever. The series opens with Prof. Sandy Middleton, Zoology, April 5 at 5:30 p.m. in UC 103. Everyone is welcome.

The Canadian Pork Council's Livestock Environmental Initiative is calling for research proposals. The next deadline is June 11. Proposals must be championed and technically reviewed by a national livestock organization, so it's recommended they be forwarded to the appropriate organization at least five weeks before the deadline. Proposals must first go to the Office of Research. Guidelines are on the Web at www.cpc-ccp.com/application.pdf.

A graduate student working under the supervision of Prof. Kelly Meckling-Gill, Human Biology and Nutritional Sciences, is looking for overweight subjects for a study comparing the effects of a low-fat diet versus a low-carbohydrate diet on weight loss and other health parameters. For more information, call 836-2131 or send e-mail to caitrion@uoguelph.ca.

Organizers of an international multidisciplinary workshop examining globalization and popular culture, to be held Oct.19 to 21 at the University of Manitoba, are calling for paper proposals addressing the themes of production, consumption and identity. Abstracts should be no more than 300 words and must be submitted with a one-page vita by April 25 to Tina Chen, 346 University College, Department of History, University of Manitoba, Winnipeg, MB R3T 2M8, fax: 204-261-0021. For more information, call Chen at 204-474-9149 or send e-mail to chentm@ms.umanitoba.ca.

## SEMINARS

The Department of Chemistry and Biochemistry presents David Harrington of the University of Victoria considering "Surface Electrochemistry of Iodine and Silver on Pt(111)" March 29 at 3 p.m. in Chemistry and Microbiology 319.

The Department of Microbiology graduate student seminar series continues with Becky Crane discussing "Regulation of the Osmoregulatory Transporter ProP by ProQ in *Escherichia coli*" March 30 at noon in Food Science 128.

The Department of Mathematics and Statistics presents John Mighton of the Fields Institute for Research in Mathematical Sciences explaining "A New Reduction of Graph Theory and Binary Matroids" March 30 and Prof. Bill Langford discussing "From Arnold's Normal Form to Nayfeh's Abnormal Resonance" April 6. The talks begin at 2:30 p.m. in MacNaughton 121.

"Morphology and Life History of Lake Char in Great Bear Lake" is the focus of graduate students Dylan Weese and Craig Blackie in the Axelrod Institute of Ichthyology seminar series April 3. On April 10, graduate student Bob Scott examines "Cold War: East Meets West in Wilmot Creek." The seminars begin at 12:30 p.m. in Axelrod 168.

The Department of Physics seminar series continues April 3 with Brian Swartzentruber of Sandia National Laboratories in Albuquerque, New Mexico, discussing "Direct Measurement of Atom Diffusion Using Atom-Tracking STM" and April 10 with Richard Hemingway of Carleton University considering "LEP is Dead . . . Long Live the Standard Model of Particle Physics." The seminars begin at 4 p.m. in MacNaughton 113.

The Department of Plant Agriculture presents graduate student seminars April 6 from 9 a.m. to 4:30 p.m. in Thornbrough 100. For a list of seminars, visit the Web site www.plant.uoguelph.ca/courses/29-640.

Up next in the Department of Zoology seminar series is Bruce Turner of the American Museum of Natural History considering "The Beast That Cannot Be: Evolutionary Genetics of the Only Known Self-Fertilizing Vertebrate" April 6 at 3 p.m. in Axelrod 265A.

The Department of Chemistry and Biochemistry presents a special biochemistry seminar featuring Judy Bolton of the Department of Medicinal Chemistry and Pharmacognosy at the University of Illinois at Chicago April 9 at 2 p.m. in MacNaughton 222. Her topic is "Quinones From Equine Estrogens: Role in Estrogen Carcinogenesis?"

## TEACHING SUPPORT

Teaching Support Services's winter series of training and development opportunities for faculty and teaching staff wraps up March 29 with "Digitizing Video for Teaching" and April 19 with "HTML V: Developers Q & A." For more information or to register online, visit the Web site www.tss.uoguelph.ca.

## THESIS DEFENCES

The final examination of Patrick Martin, a PhD candidate in the Department of Economics, is March 28 at 3 p.m. in MacKinnon 235. The thesis is "Essays on the Intertemporal Allocation of Natural Resources in the Presence of Environmental Amenities." The adviser is Prof. John Livernois.

The final examination of M.Sc. candidate Akash Sastri, Zoology, is March 30 at 9 a.m. in Axelrod 265A. The thesis is "The Activity of Chitobiase in the Medium: A Biochemical Estimate of Development Rate in Planktonic Crustacea." The adviser is Prof. John Roff.

The final examination of Amie Gibbs, an M.Sc. candidate in the Department of Family Relations and Applied Nutrition, is April 5 at 9:30 a.m. in HAFA 243. The thesis is "Mealtimes as Active Processes in Long-Term Facilities: A Resident-Centred Model." The adviser is Prof. Heather Keller.

The final examination of PhD candidate Susan Tosh, Food Science, is April 6 at 1:30 p.m. in Food Science 128. The thesis is "Probing the Structure of Thermoreversible Food Polymer Gels Using Gelatin as a Model Polymer." The adviser is Prof. Alejandro Marangoni.

The final examination of Emmanuel Egbosimba, a PhD candidate in the Department of Microbiology, is April 9 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Studies on the Role of Glycosylation in the Adherence of *Fibrobacter succinogenes* to Cellulose." The adviser is Prof. Cecil Forsberg.

The final examination of PhD candidate Lillian DeBruin, Department of Chemistry and Biochemistry, is April 9 at 9:30 a.m. in MacNaughton 222. The thesis is "The Detection of Aromatic Amines, Possible Mammary Carcinogens, in Human Milk." The adviser is Prof. David Josephy.

The final examination of Ryan Weis, an M.Sc. candidate in the Department of Animal and Poultry Science, is April 9 at 2:15 p.m. in Animal Science and Nutrition 141. The thesis is "Independent Effects of Energy Intake and Body Weight on Physical and Chemical Body Composition in Growing Pigs." The adviser is Prof. Kees de Lange.

The final examination of Dominique Charron, a PhD candidate in the Department of Population Medicine, is April 11 at 9:30 a.m. in OVC 1713. The thesis is "Livestock Production and Stream Health in the Great Lakes Basin: An Agroecosystem Health Approach." The adviser is Prof. David Waltner-Toews.

The final examination of PhD candidate Mark Raymond, Economics, is April 11 at 10 a.m. in MacKinnon 132. The thesis is "Three Essays on Regulatory Issues in Environmental Economics." The adviser is Prof. John Livernois.

The final examination of George Smith, a PhD candidate in the School of Landscape Architecture, is April 11 at 1:30 p.m. in Textiles 210. The thesis is "Farms: Framework for Analysis of Rural Municipal Sustainability." The adviser is Prof. James Taylor.

The final examination of M.Sc. candidate Kathleen O'Malley, Department of Zoology, is April 12 at 9:15 a.m. in Axelrod 265A. The thesis is "QTL for Spawning Time and Body Weight in Rainbow Trout: Testing for Conserved Effects Across Ancestral Homeologues." The adviser is Prof. Moira Ferguson.

The final examination of PhD candidate Vern Osborne, Animal and Poultry Science, is April 18 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Water Nutrition in the Dairy Cow." The adviser is Prof. Brian McBride.

## COMMUNITY EVENTS

The Big Sister Association of Guelph holds its sixth annual Rock 'n' Roll Auction April 5 beginning at 6 p.m. at the Cutten Club. Tickets are $15. For more information, call Ext. 3343 or 824-0800.

The third annual Guelph Contemporary Dance Festival runs April 4 to 8 at the River Run Centre, Knox Church and Goldie Mill Park. For more information, call 836-0788 or visit the Web site www.guelphcontemporarydancefestival.com.

APRIL 11, 2001

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7 FINE art student is equally at home on the football field.

## IN THE SWIM OF THINGS

Third-year sociology student Genna Le Gear is head coach for the Guelph Synchronized Swimming Club, a local program that has more than 50 girls and young women involved in both competitive and recreational synchronized swimming. The club uses the University's red pool every week to practise, and Le Gear, who's been involved in synchronized swimming for a decade, is one of four U of G students who coach for the club. See story on page 12.

PHOTO BY MARTIN SCHWALBE

# Human Rights Report in Final Draft

*Working group aims to bring document to Senate meeting in September*

INCLUDED WITH THIS ISSUE of *@Guelph* is the Human Rights Policy Development Working Group's final draft of *Human Rights at the University of Guelph.* Patrick Case, director of the Human Rights and Equity Office, says the draft represents the consensus of ideas and input arising from the working group's efforts to develop a human rights policy and procedures document that will work for everyone at U of G.

"Although our consultations have been extensive and detailed, we welcome the fact that we will continue to receive comments about the policy and procedures from individuals and some groups as we move to conclusion," says Case.

The goal is to bring the human rights policy and procedures document to Senate in September for discussion, as a prelude to submission to Board of Governors for final approval, he says.

"On behalf of the Working Group and the Human Rights and Equity Office, I wish to thank all of those who have contributed to the final draft."

# Director of Food System Biotech Centre Appointed Vice-President (Research)

*Prof. Alan Wildeman will assume new duties July 1*

THE SEARCH COMMITTEE for the position of vice-president (research) has recommended the appointment of Prof. Alan Wildeman, director of U of G's Food System Biotechnology Centre. The appointment, which will go to Board of Governors for final approval, begins July 1.

"I am delighted to accept this recommendation," says president Mordechai Rozanski, chair of the search committee.

"As a member of U of G's faculty for more than 15 years, Dr. Wildeman enjoys a national reputation as a first-rank researcher with extensive experience in multidisciplinary networking and multi-faceted research projects involving universities, the provincial and federal governments and industry. He has also long pursued an interest in the societal impacts of research and science, believes in a research agenda that values diverse fields and approaches, and is committed to advancing the linkages between research and teaching."

Wildeman, who holds B.Sc. and M.Sc. degrees in biology from the University of Saskatchewan and a PhD in molecular genetics from U of G, joined Guelph in 1985 as a professor in the Department of Molecular Biology and Genetics. He has held a Natural Sciences and Engineering Research Council Industrial Research Chair in biotechnology, has been a participant in many national and international peer-review panels in the biomedical sciences, was named director of the Food System Biotechnology Centre in 1999 and is Guelph's lead participant in the Ontario Genome Project.

"The University of Guelph contains many of the elements that a leading research institution needs," says Wildeman. "While our reputation in agri-food and veterinary medicine grows, research

Prof. Alan Wildeman

PHOTO BY MARTIN SCHWALBE

excellence in social sciences, life sciences, physical sciences and humanities increasingly highlights the multi-faceted nature of scholarship on this campus. Needless to say, I feel honoured at having been picked by the selection committee. I look forward to working with the Office of Research in the delivery of their services to the research community, and to meeting with deans, chairs, faculty, staff and students across campus to discuss ways in which I, the associate vice-presidents and others in the office can help to promote their research aspirations. I also look forward to working with the various government agencies that place a large investment in us, particularly at a time when research funding in Canada is growing."

Rozanski notes that the search process was an extensive and challenging one, ultimately incorporating a review and restructuring of the University's research operations.

"Given the exceptional leadership provided by Dr. Larry Milligan over the past 15 years and the continuing achievements of U of G's research community, the search committee was committed to recruiting an individual of the highest calibre. We were seeking someone with visionary and strategic leadership to help the University's researchers and scholars achieve institutional and individual research aspirations — locally, nationally and internationally."

The president adds that as the search evolved, it became clear that the structure and resources of the Office of Research had to be enhanced to recruit a worthy candidate who met Guelph's distinctive requirements, as well as to ensure ongoing success in the new provincial and federal funding environment. Spurred by these needs, a review of the Office of Research was conducted, resulting in the creation of two new associate vice-president positions and recommendations for further operational adjustments and resource improvements to the office, he says.

"I look forward to working very closely with Dr. Wildeman in his new role over the next few years," says Rozanski.

"He and I have already discussed the priority steps that should be taken to fulfil the management needs of a restructured office. We have also discussed ideas to ensure that central as well as local research issues are addressed. The newly created and evolving senior research administrative team will be of immense help in this regard, helping the VP (research) pursue the full range of Guelph's internal and external research initiatives.

*Continued on page 10*

Research

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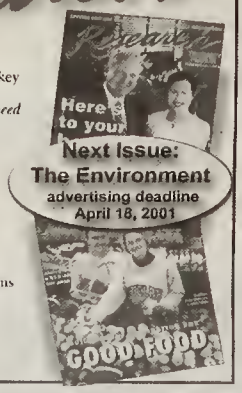




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# Women of Distinction Named

*U of G faculty, staff, alumni recognized for achievements and contributions*

TWO U OF G FACULTY, a staff member and two alumni, one of them a former director of development at the University, have been named recipients of the 2001 Women of Distinction Awards by the YMCA-YWCA of Guelph.

The awards recognize women and their achievements in eight categories: arts and culture; business, labour, the professions and entrepreneurs; education, training and development; lifetime achievement; science, technology and the environment; voluntary community humanitarian service; wellness, health and active living; and young woman of distinction.

Prof. Donna Lero, Family Relations and Applied Nutrition, was honoured in the wellness, health and active living category.Prof. Janet Wood, Microbiology, received the award for science, technology and environment. Judith Nasby, director of the Macdonald Stewart Art Centre and an adjunct professor in the School of Fine Art and Music, was honoured for her contributions to arts and culture.

The lifetime achievement honour went to Marilyn Robinson-Murray, a former director of development at U of G and a 1955 graduate of Macdonald Institute. Elizabeth Fisk, a 1990 BA graduate of Guelph, was honoured in the category voluntary community humanitarian service.

Lero, a faculty member at Guelph since 1974, co-founded the University's Centre for Families, Work and Well-Being, where she helps families manage work and home responsibilities, and works to promote responsive family-friendly work environments. Recently, she and the centre played an active role in the *You Bet I Care!* studies on the quality of child care in Canada, the most systematic and multi-jurisdictional studies ever documented.

"Recognition by the community is very gratifying," says Lero of the Women of Distinction Award. "I also appreciate the fact that the award reflects the support and encouragement the University provides for interdisciplinary applied research."

Wood, who joined U of G in 1977, was recognized for using her background and international reputation to benefit the community, especially by encouraging young women to pursue careers in science. She has also been involved in employment equity, disability issues and literacy projects.

"I believe the roles of an academic scientist should include community service," she says. "After many years of intense and almost exclusive involvement in teaching, research and other University affairs, I have only recently begun to explore ways in which my academic 'toolbox' can be applied within the community."

Nasby, a staff member at U of G since 1968, was recognized for her efforts as the driving force behind the creation of the Macdonald Stewart Art Centre and for her "tireless enthusiasm and dedication" to enriching the community with art.

"It's an honour to be recognized with this award for working in the arts and for this community," she says. "It was an exciting moment 20 years ago when 900 people attended the opening of the art centre. Over the years, I have worked with so many fine artists, staff, volunteers and trustees who have contributed so much for the art centre's benefit."

Robinson-Murray was honoured for her "vision, pioneering spirit and leadership." Her lifetime of contributions include work with 4-H, Meals on Wheels and the boards of the Homewood Foundation, Musica Viva and the Grand River Foundation. She joined U of G's development staff in 1986 and went on to become director of development and director of donor relations before retiring in 1996.

Fisk was recognized for her many volunteer activities, which include work with Family and Children's Services, the United Way and the Guelph Police Services Board.

The awards will be presented at a ceremony May 17 at the River Run Centre. For tickets, call 763-3000.

# IN MEMORIAM

### DAVID ARNOTT

Retired food science professor David Arnott, a faculty member at Guelph for 32 years, died April 1 at the age of 75.

A BSA graduate of the University of Manitoba, he taught at the University of Saskatchewan for four years before earning his MS in dairy science at the University of Minnesota and his PhD in agricultural biochemistry and dairy manufacturing at Penn State. He spent a year teaching at Purdue University before joining the faculty of OAC as an assistant professor of dairy marketing in 1958.

Prof. Arnott specialized in the problems of producing high-quality market milk and in doing research in new product development. In addition to his research and teaching, he served for many years as chair of the Convocation Committee and as parade marshal. He retired from the University in 1990.

Prof. Arnott is survived by his wife, Jenny; two children, Janice and John; and five grandchildren. A tree will be planted in his memory Sept. 23 at the Wall-Custance Memorial Forest in the Arboretum.

### GEORGE LEIBBRANDT

Prof. George Leibbrandt, Mathematics and Statistics, died suddenly April 3 at the age of 63. A B.Sc. graduate of McMaster University and an M.Sc. and PhD graduate of McGill University, he joined Guelph's Department of Mathematics and Statistics at its inception in 1966.

An applied mathematician who specialized in the field of theoretical physics, he focused his research on noncovariant gauges in particle physics, renormalization in Yang-Mills theory, quantum gravity and Chern-Simons theory. He published 72 refereed papers and a 1994 research monograph titled *Noncovariant Gauges: Quantization of Yang-Mills and Chern-Simons Theory in Axial-Type Gauges.*

Renowned internationally for his research, Prof. Leibbrandt was frequently invited to visit and speak at universities, centres and meetings around the world. He held visiting professorships at Imperial and Queen Mary colleges (University of London), Cambridge University, Harvard University and the European Organization for Nuclear Research in Geneva. He also received Germany's Alexander von Humboldt Fellowship twice. Most recently, he was heavily involved in the formation of the Perimeter Institute for Theoretical Physics in Waterloo, serving on its board of directors.

Prof. Leibbrandt was also a popular teacher who taught a wide variety of courses and maintained an active graduate program throughout his career.

He is survived by his wife, Martha; three children, Martha, George and Sylvia; and three grandchildren. A tree will be planted in his memory Sept. 23 at the Wall-Custance Memorial Forest in the Arboretum.


@GUELPH

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UNIVERSITY of GUELPH

NEWS IN BRIEF

### INPUT SOUGHT ON INTELLECTUAL PROPERTY PAPER

The Subcommittee on Intellectual Property (a subcommittee of Senate Executive Committee) recently released a discussion paper to the University community that outlines a set of issues and questions that need to be addressed in a policy. Responses are invited from all faculty, staff and students. Copies of the discussion paper can be obtained from the Senate Office on Level 4 of the University Centre, Ext. 6760, or on the Web at www.uoguelph.ca/Senate. Also on the Web site are links to related policies and some of the literature that has been reviewed by the subcommittee. Responses should be submitted by April 27 to secretary of Senate Irene Birrell.

### FARMING COUPLE HONOURED

A farming couple from Ayr are this year's recipients of the Ontario Agricultural College's Outstanding Service Award in recognition of their contributions to agricultural research and teaching programs. John Gillespie and Mary O'Connor of Jo-Mar Farm were honoured at a volunteer recognition reception April 2. For many years, the couple have made their farm and livestock operation available to U of G students and faculty, to the Ontario Ministry of Agriculture, Food and Rural Affairs, and to visiting groups from across the country and internationally.

### SLAPSIE RUNS HIGH SCHOOL LITERARY COMPETITION

The School of Literatures and Performance Studies in English is running the Stone Sky 2001 Literary Competition for secondary school students. Prizes will be awarded in the categories fiction, poetry, and dramatic monologue or dialogue. Each competitor is limited to one story of five to 10 pages, three poems of up to six pages and a monologue or dialogue five minutes in length. Entries must be sent by May 15 to the Stone Sky Literature Competition, Massey Hall. Judges are drama professor Judith Thompson and English professors Janice Kulyk Keefer and Tom King.

### WORKSHOP FOCUSES ON UNRESOLVED GRIEF

The Couple and Family Therapy Centre is co-sponsoring a workshop April 20 on strategies for living with unresolved grief. The workshop will feature Pauline Boss, a University of Minnesota family science professor, who will talk about "Ambiguous Loss." The session is aimed at social workers, therapists, counsellors, clergy, doctors, nurses, long-term caregivers and mental health professionals, although the general public may also attend. It runs from 9:30 a.m. to 4:30 p.m. at the Arboretum. Cost is $95 for professionals and $65 for students. For more information, call Rosemary Sartori at Ext. 6426.

# Gilmor Award Honours Two

*Staff member, OAC student recognized for contributions to student life*

Laurie Schnarr, left, and Kathryn Barkey are the 2001 recipients of the R.P. Gilmor Student Life Award.
PHOTO BY MARTIN SCHWALBE

THIS YEAR'S WINNERS of the R.P. Gilmor Student Life Award for contributions that enhance the quality of student life on campus are Laurie Schnarr, manager of leadership, service and involvement programs in the Counselling and Student Resource Centre (CSRC), and Kathryn Barkey, a third-year OAC student. They were honoured at an April 3 reception attended by former provost Paul Gilmor, for whom the award is named.

Schnarr, who joined the University in 1983 and CSRC in 1985, is described by student nominators as "a tireless advocate for the betterment of student life" who is "willing to go above and beyond the call of duty in order to support students."

Since assuming management of the University's peer helper program in the mid-'80s, Schnarr has been instrumental in developing it into the largest peer helper program in Canada. She is a founding member and co-ordinator of the Student Executive Council and each year co-ordinates Student Leaders Interacting and Collaborating, an award-winning leadership conference for newly elected and appointed student leaders from across the country.

Scharr has increased the visibility of her unit through projects such as iCAN (Interactive Community Action Network), a Web service that links volunteers with community organizations, and Project Serve, a one-day volunteer event for students across campus.

Barkey, who is president of the Student Federation of OAC (SFOAC), followed three older siblings from the family farm in Blackstock, Ont., to OAC in 1998. She has represented her college on the University's Judicial Board and the Student Budget Advisory Group and is a student representative on the academic vice-president's faculty selection committee.

Previously, she acted as liaison between SFOAC and the U of G Human Rights and Equity Office and is currently working with alumni as a member of the OAC Alumni Foundation and OAC Alumni Association boards.

A 4-H member and active Jr. Farmer, Barkey works part time for the Ontario Farm Animal Council and the Admissions Office.

Barkey's SFOAC nominators say her "contagious enthusiasm" for student life has influenced many U of G students to become involved. "Her persistence in her pursuit of strengthening ties between OAC and the rest of the University has been appreciated by students, faculty and alumni."

# Dean Candidates Announced

SEARCH COMMITTEES for the positions of dean of the College of Arts and dean of the Ontario Agricultural College have announced the names of short-listed candidates.

The College of Arts search committee, which continues its search process with other candidates, has announced two candidates to date: Cynthia Neville, a history professor and associate dean of graduate studies at Dalhousie University, and Judith Henderson, a professor of English and history and associate dean (humanities and fine arts) at the University of Saskatchewan.

Neville and Henderson have been invited to visit the University this month to give public talks and meet with various administrators, faculty, staff and students. Neville will speak April 18 and Henderson will speak April 23, with both talks beginning at 9 a.m. in Room 120 of the MacKinnon Building. The sessions will include a question period. Copies of the candidates' CVs are on file in College of Arts academic offices and in the office of the provost, Room 414 of the University Centre.

The College of Arts search committee, chaired by provost Alastair Summerlee, invites written submissions on the candidates from members of the University community. Other members of the search committee are Prof. Brian Allen, Mathematics and Statistics; Prof. Daniel Chouinard, Languages and Literatures; Prof. Elizabeth Ewan, History; Prof. Alan Filewod, Literatures and Performance Studies in English; Prof. Alun Joseph, dean of the College of Social and Applied Human Sciences; Susan Morrison of the College of Arts dean's office; and student Jackie Swaisland.

The OAC search committee has announced the names of two short-listed candidates: Prof. Tom Michaels, acting dean of OAC and a faculty member in the Department of Plant Agriculture; and Craig Pearson of the Department of Agriculture, Fisheries and Forestry in Canberra, Australia. Pearson is the department's chief scientist in the agriculture, food and sciences division and greenhouse co-ordinator for the Bureau of Rural Sciences, and is also an adjunct professor at the Australian National University.

It's anticipated that the candidates will be invited to give a public lecture and meet with various constituencies in mid-May or early June. Copies of their CVs will be on file in OAC academic offices and in the provost's office.

Chaired by Summerlee, the OAC search committee consists of Prof. Robert Brown, Landscape Architecture; William Curnoe, Kemptville College; Prof. Kees de Lange, Animal and Poultry Science; Chris Gillard, Ridgetown College; graduate studies dean Isobel Heathcote; graduate student Ryan Ramsey; Prof. Barry Shelp, Plant Agriculture; and Prof. John Walsh, HAFA.

## PEOPLE

### POULTRY SCIENTIST RECEIVES INTERNATIONAL RECOGNITION

Prof. Ian Duncan, Animal and Poultry Science, has been awarded the Robert Fraser Gordon Memorial Medal for 2001. The medal recognizes distinguished contributions to a branch of poultry science and was presented this week at a combined meeting of the Britisb Society of Animal Science and the World's Poultry Science Association in York, England. Duncan specializes in poultry behaviour and welfare and has been developing methods of "asking" chickens how they feel about the conditions they're raised under. This is only the second time a Canadian has received the Gordon Medal since it was established in 1983. In 1997, it went to Prof. Rob Etches, also of the Department of Animal and Poultry Science.

### MICROBIOLOGIST NAMED TO JOURNAL EDITORIAL BOARD

Prof. Chris Whitfield, Microbiology, has been appointed to the editorial board of the *Journal of Biological Chemistry* for a five-year term. The journal is published weekly by the American Society for Biochemistry and Molecular Biology and is one of the premier journals in its field. In 2000, the journal handled 12,600 submitted papers and published more than 41,000 pages.

### TOP ATHLETES HONOURED

U of G's top student-athletes were honoured recently at the Department of Athletics' annual banquet. Swimmer Sean Sepulis, who won three CIAU gold medals this season and owns more OUA records than any other swimmer, was named male athlete of the year, the second time he has received the honour. Track-and-field Gryphon Heather Loree was named female athlete of the year for a stellar season that included three medals at the national championships. The Wildman Trophy went to football Gryphon Jeremy Oxley (see profile on page 7). Tara Hedican was named female rookie of the year for her performance in rugby and wrestling, and the male rookie of the year award was shared by basketball Gryphon Naden Kapetanovic and OUA golf champion Oliver Tubb.

### WOMEN'S MOVEMENT IN CANADA FOCUS OF TALK

Prof. Lynn McDonald, Sociology and Anthropology, gave a paper on "The Women's Movement in Canada: Setting the Agenda" at a colloquium on "Madeleine Parent and Her Struggles" at McGill University in March.

### OPEN HOUSE PLANNED

An open house in honour of Peter Willoughby, who is retiring after more than 23 years with Computing and Communications Services, will be held April 25 from 3 to 6 p.m. at the Whippletree. Anyone wishing to contribute towards a gift can send a donation to Kim Burgess in Room 006 of the Animal Science and Nutrition Building.

# Antibody From Egg Yolks Could Combat Rotavirus

*Between two million and three million children die each year from rotavirus because no vaccine is available*

PROF. YOSHINORI MINE, Food Science, has developed a new antibody producible in chicken egg yolks that may one day wipe out a virus that kills millions of children annually. The antibody, which could be delivered orally, has proven effective in eliminating rotavirus in animals and is now moving to human clinical trials.

Rotavirus is the major cause of intestinal infection in children under age three, leading to severe diarrhea and vomiting and often death due to dehydration.

"It is a very difficult virus to control, especially in developing countries," Mine says. "Between two million and three million children die each year because, at the moment, there is no vaccine. Governments and health systems also spend billions of dollars treating it."

Chickens could provide an unlimited supply of highly specific antibodies capable of neutralizing human rotavirus, he says. "These antibodies can then be purified, packaged for human consumption as pills or liquid syrup for children, and used to treat and prevent the virus."

Mine's research focused on developing an antibody that specifically fights human rotavirus. Antibodies are natural "smart proteins" of the immune system that fight foreign viruses — or antigens — in the body. Hens naturally produce an antibody (IgY) that is deposited into egg yolks to give increased immunity to developing embryos. Mine's group used the hens' unique immune system as a vehicle for antibody production.

The researchers found specific surface proteins in the rotavirus that play a key role in the neutralization of the virus. They expressed the protein using biotechnology and injected it into the hens.

"The resulting antibody — deposited into the egg yolk — captured the virus and didn't allow it to grow anymore," Mine says.

In animal tests involving mice, the antibody both neutralized the virus in infected animals and prevented infection in others.

"This has significant implications as an oral delivery of antibodies for humans and for possible use in the fortification of food products as medicinal foods," he says.

Antibodies are often produced for commercial use as medical therapies and drugs. They are traditionally obtained by using the serum of mammals such as mice, rats, rabbits, sheep, goats and horses after they've been immunized. Until now, however, no antibodies have effectively eliminated rotavirus.

Mine says that using chickens for antibody production is superior to using mammals for a number of reasons. Less antigen is required to produce an efficient immune response, and hens produce 18 times as many antibodies as mammals their size do. Eggs are also eaten by people worldwide, making them a more feasible and cost-effective source for large-scale production. In addition, chicken antibodies can be easily purified from the egg yolk using simple non-invasive techniques.

"With the conventional method of obtaining antibodies, animals are inevitably sacrificed for the antibodies in their circulating blood," says Mine. "Here, only the eggs from the immunized hens are used."

The second part of his research focused on developing ways to deliver the antibody orally. To combat or prevent rotavirus, antibodies must pass safely through the stomach and exert their function in the intestine, where the rotavirus attaches. So Mine developed a unique antibody microcapsulation technology that resists breakdown in the stomach and is released into the small intestine for target antibody delivery without degradation.

He has written a book chapter on this research that has been accepted for publication by Kluwer Academic Press in the United Kingdom. He also presented his findings at the international gathering of the American Chemical Society.

In December, Mine received a Premier's Research Excellence Award from the Ministry of Energy, Science and Technology to help fund his research. He has also received backing from the Natural Sciences and Engineering Research Council, Agriculture and Agri-Food Canada, the Ontario Egg Producers Marketing Board and the Ontario Ministry of Agriculture, Food and Rural Affairs.

*BY LORI BONA HUNT*

# Harmless-Looking Tree a Predator

*White pine partners with fungi to eat insects alive, new research shows*

THE WHITE PINE TREE — known for its majestic heights and sofr blue-green needles — is a predator under the soil, teaming up with fungi to eat insects alive, U of G researchers have discovered. The findings of Prof. John Klironomos, Botany, and graduate student Miranda Hart, which appeared in the April 5 edition of *Nature* magazine, have the potential to change how science looks at nutrient cycling in forests.

Klironomos and Hart found that white pine trees form a deadly partnership underground with the fungus *Laccaria bicolor*, which grows from the tree's root. The two work as mutualists, with the fungus preying on insects to get animal-origin nitrogen, then using it to "barter" with the host tree for the carbon it needs to synthesize enzymes.

In this way, white pine trees are acting indirectly as predators to supply themselves with life-sustaining nutrition, says Klironomos. It also means that forest nutrient cycling may be more complicated than was previously thought.

"Above-ground, these trees look so harmless," he says, "but it turns out that below the surface, they are feeding on live animals."

The researchers made the discovery while conducting a routine study that involved white pines. "When we would introduce insects to the soil — mostly springtails — they would die immediately, and we wondered why," says Klironomos.

"On closer examination, we discovered the insects were really being attacked by this fungus. We think the fungus releases a toxin that paralyses the insect, then it infects them, grows inside them and eats them alive."

To verify the results, the researchers conducted a series of controlled experiments with white pine seedlings and *L. bicolor*. They found that springtails in the soil did not die in the presence of other fungi or in tests that were fungus-free. Likewise, when white pine seedlings were grown in controlled environments with a different fungus or in the absence of fungus, they were able to acquire nitrogen only from dead insects.

"It is the specific combination of the white pine tree and the *L. bicolor* fungus that proves lethal for insects and most effective for the tree," says Klironomos.

Science has long recognized the importance of the partnership between trees and ectomycorrhizal fungi (fungi that grow from trees' roots) in plant nutrition. Until now, however, it's been commonly believed that trees and their associated fungi derive nitrogen from dead organic matter in the soil.

Klironomos adds that more studies must be conducted to determine if their findings are an isolated incident.

"When you're dealing with soil, it really is a big black box," he says. "It's so difficult to figure out what's going on down there. But if this phenomenon proves to be widespread, it changes everything."

*BY LORI BONA HUNT*


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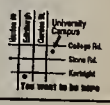


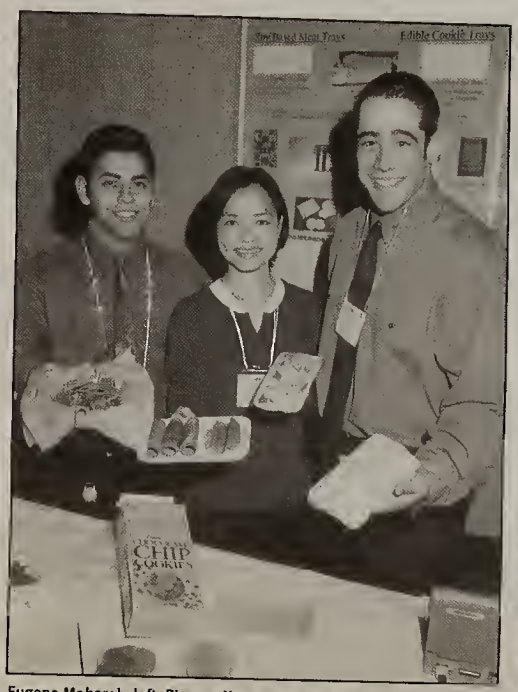
# Edible Packaging, Udder Balm Capture Top Prizes in Project SOY Competition

*Contest designed to harness the creativity of U of G students in finding innovative uses for soybeans*

EDIBLE, biodegradable packaging and an all-natural lavender-scented udder cream for cows and ewes were the top winners in this year's Project SOY (Soybean Opportunities for Youth), an annual contest for U of G students to develop new uses and markets for soybeans.

The event wrapped up April 3 in Guelph with an awards ceremony attended by Ontario Minister of Agriculture, Food and Rural Affairs Brian Coburn. The minister, president Mordechai Rozanski and Peter Hannam, president of First Line Seeds, presented the winners with first-, second- and third-place awards in undergraduate/graduate and diploma categories, valued at $2,500, $1,000 and $500, respectively, in both categories. Seven student teams competed in the contest.

First place in the undergraduate/graduate category went to edible and biodegradable food-packaging trays called *Soylutions Inc.*, developed by engineering undergraduate students Marc-Antoine Joly, Eugene Mohareb and Phuong Nguyen. First place in the diploma category was awarded to *Udderly Soyft*, a lavender-scented udder balm that minimizes the spread of infection (lavender acts as an antimicrobial and seems to have a calming effect on the animal). The product was developed by Kemptville College student Jason McIntosh.




Eugene Mohareb, left, Phuong Nguyen and Marc-Antoine Joly captured first place in Project SOY's undergraduate/graduate category for their edible food packaging. PHOTO BY MARTIN SCHWALBE

Second place in the undergraduate/graduate category went to food science undergraduate students Rebecca Paine and Catherine Schluter for paper products made from okara (soy byproducts). Third place was awarded to plant biology undergraduate student George Bassel and food science undergraduate Amy Proulx for *FerriSoy*, an iron supplement derived from nodules on soybean roots.

Second place in the diploma category went to Ridgetown College students Krystyna Czarnik and Alicia Gabourie for *Soy'Perb*, antiperspirant products based on soy oil and soy flour.

Honourable mentions (and $250 cash prizes) went to the team of Meghann McLeod, Sarah Morrison and Andre McBride for a low-fat brownie snack and to Jessica Hough for *Catsoya*, a tuna-flavoured soy milk for cats.

Project SOY was initiated in 1996 to harness the creativity of students in finding innovative new uses for soybeans, the number-one cash crop in Ontario. Project SOY winning ideas in the past have included heart-healthy soy bagels, a coffee-like beverage made from roasted soybeans and environmentally friendly soy-based candles.

Student participants in Project SOY who want to advance their products to the commercialization stage can now apply to the Hannam Soybean Utilization Fund (HSUF) for assistance. The HSUF is a $1-million gift to U of G from Hannam, an OAC graduate who was instrumental in initiating Project SOY.

The contest is sponsored by First Line Seeds and the University, with additional support from the Ontario Soybean Growers and Maple Leaf Foods International. Students at Guelph and at its affiliate colleges in Ridgetown, Kemptville and Alfred are eligible to participate.

*BY MARGARET BOYD AND MIRJANA VRBASKI OFFICE OF RESEARCH*

THE HANNAM Soybean Utilization Fund is calling for proposals for Year 2 of the fund. About $50,000 per project is available each year. A statement of interest must be submitted by April 27 to HSUF chair Prof. Tom Michaels, acting dean of OAC.

# Canadians Need More Info to Decide About GMOs

*Report recommends establishment of comprehensive communications program that is interactive, participatory, proactive*

CANADIANS want and need comprehensive information explaining both the benefits and risks of food biotechnology, according to a report co-authored by Prof. Karen Finlay, Consumer Studies.

Finlay was one of three authors of "Meeting the Public's Needs for Information on Biotechnology," prepared at the request of the federal government's Canadian Biotechnology Advisory Committee (CBAC).

The researchers found that, to date, most communication efforts around biotechnology have been driven either by industry groups in favour of the technology or advocacy groups opposed to it, and consumers fall similarly into split camps.

"Canadians tend to fall into two groups," says Finlay. "One group is eager to learn more about genetically engineered food but believes that, so far, there hasn't been enough unbiased, balanced information on which to form a judgment. The other group may need more motivation to make the effort to search out and learn more information about biotech foods. Our key recommendation is for the establishment of a comprehensive communications program that would be interactive, participatory and proactive and would feature a Web site, television advertising, targeted information kits, press kits and exhibits."

In December, CBAC released 10 background reports it had commissioned, including Finlay's, to advise the committee in its shaping of advice to government on public policies related to biotechnology.

Finlay and her co-authors, University of Calgary professor Edna Einseidel and student research assistant Jennifer Arko, found that when it comes to biotechnology, Canadians need to know more about the research initiatives under way to understand environmental and economic effects, and about the regulatory process in place to ensure safety and manage risks.

The authors drew on existing research about how messages are communicated, memorized and retrieved to recommend how information about biotechnology might be better understood. Their paper reviewed literature on the dissemination of biotechnology information in other countries and programs now under way in North America, and tied them to current consumer research methodologies.

They found that in an age of media proliferation and message clutter, developing information that meets the needs, goals and values of the consumer is critical, preferably using more than one media vehicle to "hit" as many busy family members as possible.

"Products should be developed with the needs and values of consumers in mind for optimal success and efficiency," says Finlay. "Consumers must be targeted proactively and creatively, taking messages to them rather than passively relying on traditional media vehicles."

*"A positive overall predisposition to GM foods is a desirable cognitive state for consumers, not to convince them to use GM foods, but rather to positively predispose them to search for and process specific information about GM foods so that they become neutrally informed."*

The researchers suggest that because the human mind often memorizes more easily within distinct categories, it might be possible to present information in similar categories for GMOs, such as benefits, effects on nature/environment and regulation.

"More information is remembered later since activation flows directly among information elements, and cues recall information from the same category," says the report.

On the subject of supermarket labelling of GMO foods, a contentious issue at present, the authors write in favour of it, although they concede there's a risk that if mandatory product labelling of GMOs is introduced at the supermarket, it could start a whole new shopping dynamic.

"Traditionally, consumers have assumed that if a product is on the supermarket shelf, it's safe. Research has shown that, on average, 56 items are purchased during every 20-minute shopping trip. Given this, plus the typically cluttered and hectic grocery store, it is clear that the average shopper is not carrying out too detailed an information search of each product.

"But with increased media coverage of genetically modified foods, this heuristic appears to be fading. Mandatory implementation of GM food labelling could introduce a new decision heuristic. If a product is labelled GM, it may be less preferred."

Ideally, the researchers would like to see consumer perception redirected, so that if confronted with a GM label, the "don't buy" heuristic changes to a "need to know more" one.

"If consumers become aware of and positively predisposed towards the need to become informed, 'finding out more' will become the function of the label if that additional information is effortlessly accessible," says Finlay.

The researchers believe that open labelling is the right thing to do to convince consumers that the products are safe. Without labelling, public concern and mistrust will increase, they say. But a major public awareness campaign is necessary so that consumers are not discouraged from products solely because they are labelled as containing GMOs.

"A positive overall predisposition to GM foods is a desirable cognitive state for consumers, not to convince them to use GM foods, but rather to positively predispose them to search for and process specific information about GM foods so that they become neutrally informed," says Finlay.

CBAC is an arm's-length expert advisory body created in 1999 to provide independent advice to the seven federal ministers who make up the Biotechnology Ministerial Coordinating Committee. The 21 appointees to CBAC, which include U of G plant agriculture professor Doug Powell, are drawn from the scientific, business, ethics and environmental communities as well as the general public.

The CBAC news release and all 10 commissioned backgrounders can be found at the committee Web site at www.cbac.gc.ca.

*BY ALEXANDER WOOLEY*

# On a Treadmill Going Backwards

*"Grades are seen as similar to a money economy and become the chief currency on campus"*

BY NANCY SCHMIDT

As part of my doctoral studies in higher education at the University of Toronto, I conducted a series of interviews with 30 first-year U of G students who were part of the University College Connection program. My goals were to understand what the academic side of university life looked like to first-year students; to investigate how students as novice learners negotiated their role as learners; to examine the belief systems they brought with them about learning, academic success, ways to minimize academic risk and the role of instructors; to explore their coping strategies in a 12-week semestered system; and to understand the tacit theories they acquired within their day-to-day educational experiences. Four major themes emerged from the research, themes that have been reinforced from my ongoing work and interactions with first-year students.

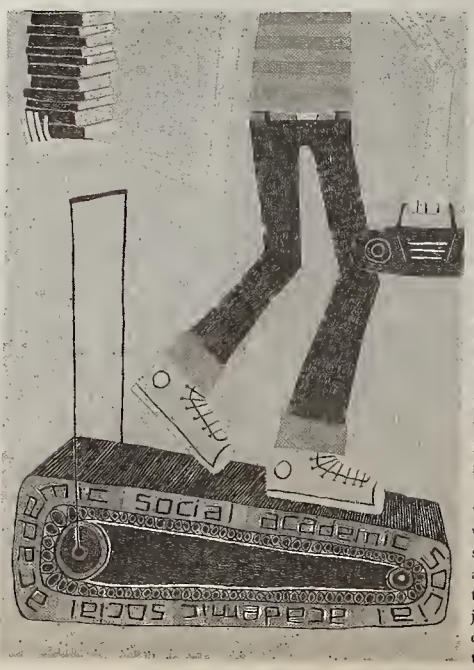



ILLUSTRATION BY MARLENA ZUBER

Time Management and the 'Sin of Wastefulness'

In students' stories about studying, going to classes and even in describing their motivation, the theme of wastefulness came up over and over again. It permeated their talk, appeared to direct their actions and set limits on how much time they spent on academic activities. Students fretted about "wasting" their money or their parents' money if they didn't do well. They deplored wasting time, especially if there didn't seem to be an appropriate payback for their efforts.

By the third week of classes, students were already feeling behind. There was talk of trying to "catch up" and concerns about the workload. They described themselves as "buried in the work" and feeling overwhelmed. By the eighth week of classes, I found a frenzied never-ending rush of students trying to get caught up with their schoolwork and a weariness that came from repeated attempts to gain control of their time and their lives. Katherine summed up these feelings as follows: "It's like running on a treadmill going backwards. Yeah, it's hard 'cause you have so much to do, but you have no time to do it in. It's really tough to get everything done and catch up on past work. It feels like you are in a glass ball, running around in circles."

Time was seen as a valued commodity that students never seemed to have enough of. What emerged from their stories was the notion of an "efficiency principle" they operated from. This principle required all their academic activities to undergo some kind of cost-benefit analysis. Those activities deemed to be too time-consuming without an appropriate payback were eliminated. Decisions about whether to go to class or not underwent this kind of analysis constantly, as well as where to put one's study efforts in a particular course. By the middle of the semester, they were very discriminating about what classes to attend, depending on other time commitments and what assignments were due or if there was an upcoming exam.

The choices students made were dependent on the values they assigned to their options. An opportunity to sleep in during the morning and thus miss class in order to stay up late at night to study made sense under these circumstances.

There was another challenge that affected their time — the distractions that came from living in residence. Ben summarized this concern: "The noise causing distractions, people knocking on your door every five seconds, the tempting or more interesting things that are going on instead of sitting down at your desk and reading. That just perpetuates my procrastination. It's not unique to me, 'cause it's evident wherever you go. I know five or six people who are going home for finals so they can sit and concentrate on work. At home, you're not going to say: "Oh, I've got to go socialize with Mom!"

Sweat Equity: The Rewarding of Hard Work and Effort

Students seldom brought up the notion of ability as a contributing factor for their success. Most assumed that admission to university conferred on them a recognition of their ability to do university work. Many were Ontario Scholars who assumed their high grades in high school gave them a certain kind of legitimacy to be at university. Instead, what they recognized as factors for success were *hard work* and *effort*. Time on task was synonymous with effort, and the more time put into studying, the better would be your corresponding grades. These students shared the expectation that hard work, not performance, should be rewarded. Students didn't see failure as a lack of ability or a lack of effort, but rather a lack of responsibility.

They also came to realize that other factors could affect their grades, such as difficulties related to transition, and these, too, were differentiated from ability. Said Sara: "I think that first semester is basically getting used to the idea of mid-terms and how tough they are, and everyone who is here was good in high school, so they have the ability. It's just moving away from home for the first time. It's a big adjustment."

By mid-term time, I was curious what they would say when they did get exams back that indicated poor performance. What kind of face-saving techniques would they use? From Mike: "I guess I was really tired and I'm getting behind in my reading and I'm doing it later at night and it's not sticking as well as it normally would. It's just nerves, too."

I saw repeated patterns emerging in which students deflected poor performance away from personal inadequacy to factors outside themselves.

For many of these students, grades were a sign of maturity and discipline, a measure of a successful adaptation to the academic environment and/or using the right or correct study methods. Students who were receiving consistently successful grades tended to identify their hard work and effort as reasons for their success. On the other hand, students who were getting poorer grades were starting to question why this formula didn't always work. Hard work would usually pay off, but there were times when it didn't, and when that happened, students tended to experience major frustration. As Barbara noted: "My grades have changed a lot. I came in to Guelph with a 90 average. I'm going into the chem final with a 63 per cent, and that's the class that I've probably worked the most at. You look at your grades and wonder what happened."

Grades defined how students felt about their role as learner, their competence, career aspirations and sense of self. Grades are seen as similar to a money economy and become the chief currency on campus. Students saw them as a reward for specified performance requirements. This grade perspective influenced students' understanding of how they should be judged and rewarded for their academic work, and what they considered to be a fair and equitable wage for their efforts.

They wanted value for their efforts. They wanted to be paid a "fair wage" for their work. Many believed that time spent engaged in an academic activity assumes that something has been learned or achievement attained. They made little distinction between the quantity of time and the quality of effort. Difficulties and frustrations arose when what they had learned did not get recognized in a particular method of assessment or when what they had studied was not what the instructor intended for them to learn.

Minimizing Faculty Contact

Throughout my interviews, I was struck by the fact that students never identified their instructors by name. Most often, they were just "he" or "she." It surprised me that the instructors would be such nameless entities even though the students spoke about them in great detail.

I was also surprised at how minimal the contact was between students and their instructors. Although many commented on how approachable their instructors were and how this was so different from what they expected, most said they wouldn't actually go to talk to them. Carol explained: "Generally, yeah, I found the professors approachable, but I haven't gone to talk to any one of them. If I had a question, I would tend to ask someone in my cluster as opposed to asking my prof. I don't want to go and ask him and have to admit I'm behind."

Through their informal networks, students talked about who would be safe to visit and who would be willing to provide help in a way that didn't denigrate them for not understanding something. For most students, seeking help from an instructor was not a "safe" activity, because to do so was to place themselves in situations where they would be judged, have to admit ignorance or be berated for their lack of understanding with the very person who would be grading them.

Student Autonomy and Institutional Authority

In addition to limited faculty contact, none of the students I interviewed reported having any other kind of meaningful interaction with adults on campus. They and their peer groups reigned.

Students enter university with multiple tribal identities based on common goals, traditions, gender, race, histories or shared cultural forms of music and leisure. These tribal identities provide them with a sense of loyalty and purpose, fulfil needs of affection and foster identity development. As universities increase in size, the socialization process of students is left to the peer group through such tribal subgroups.

In a 1989 study of campus life, Michael Moffatt identified three zones of autonomy experienced by undergraduate students. Students were most autonomous in their daily personal lives, many for the first time living outside the control of parents, and least autonomous in the academic arena. They had virtually no say in how they were tested, very little voice related to their academic program and little, if any, choice in their selection of courses and instructors. But between the zones of student autonomy and institutional authority, there existed a grey zone where students made decisions about whether to go to class, how much time to devote to studying, or whether to make contact with their instructors. This was an area where neither autonomy nor authority fully reigned.

This bifurcation between student autonomy and institutional authority parallels the split between the academic and the social. Each area has its own culture, language and practices, and students spend their days traversing between the two, living among and between the edges.

The academic arena brings with it various rules, regulations, traditional pedagogical practices and ways of doing business. The social realm, fuelled by student tribalism, exerts pressure on students in how they spend their time and on ways to meet their personal needs and pleasures. These students live between two spaces, two cultures and two languages. It is the space in between, the crossroads of these different and often competing cultures, the borderlands, that become an alternative space. It is in this grey area that I think we need to focus attention on, to examine what we can do to help students traverse between the two zones and become effective border crossers.

Nancy Schmidt is assistant director of the Counselling and Student Resource Centre.

# HUMAN RIGHTS AT THE UNIVERSITY OF GUELPH

*incorporating the*

# HUMAN RIGHTS POLICY

*and the*

## PROCEDURES FOR THE RESOLUTION OF HUMAN RIGHTS *DISCRIMINATION* AND HARASSMENT CONCERNS, DISPUTES AND COMPLAINTS

Draft

April 5, 2001

UNIVERSITY of GUELPH

THE UNIVERSITY OF GUELPH HUMAN RIGHTS POLICY AND PROCEDURES ARE SUPPLEMENTAL TO AND DO NOT REPLACE INDIVIDUAL OR GROUP RIGHTS OR RESPONSIBILITIES ARISING FROM THE ONTARIO HUMAN RIGHTS CODE

# I. The Human Rights Policy

## 1. Foundation Statement

A commitment to the maintenance of the dignity of the human person is central to this policy. As a result, the University of Guelph is committed to a campus free of discrimination and harassment and is dedicated to the highest standards of human equality and academic freedom. The University actively endorses these standards at every level of the institution and in all aspects of student, faculty and staff life while individuals or groups are acting in a capacity defined by their relationship with the University.

## 2. The Legislative Context

### Ontario Human Rights Code

The Supreme Court of Canada has stated that the provisions of human rights codes bind universities. The Supreme Court has also stated that human rights laws are unlike ordinary laws and that they are "quasi-constitutional" in nature. The Ontario Human Rights Code exists to prevent discrimination and harassment and, through its special programs provisions, to promote proactive steps to end such practices. In addition, human rights law prohibits the creation and/or fostering of negative or poisoned environments that threaten basic human rights.

## 3. Statement of Commitment

The University of Guelph is committed to maintaining a working, learning and University residential environment that values:

- every student and employee;
- learning, University residential and working environments that are safe, positive, respectful and conducive to the pursuit of excellence;
- equity, innovation, accountability and accessibility;
- the existence of a collegial governance structure;
- meeting its obligations under the equality rights provisions of the Charter of Rights and Freedoms and the Ontario Human Rights Code;
- the uniqueness and diversity of our students, employees and community; and
- a partnership of students, employees and community.

These values are consistent with an educational institution that actively supports human rights. As such, violations of human rights will not be tolerated. Discrimination and harassment based on grounds prohibited by the Ontario Human Rights Code devalue and taint the working, learning or University residential environment and erode our values and the integrity of our organization. Such behaviour must be addressed not only for its cost in individual human terms, but also for its cost to our social, economic and civic future.

The University of Guelph asserts that discrimination and harassment are learned behaviours, not natural or instinctive impulses. As such, discrimination and harassment can be eliminated, and the ideal of a fair and equitable university can be achieved. The University is committed to the development and implementation of measures designed to eliminate or reduce the disadvantages caused by discrimination. Within the bounds of academic freedom, the University's curriculum, employment equity and human resources policies must reflect this commitment.

Under the University of Guelph Act, the ultimate responsibility for the educational policy of the University rests with Senate. This includes, but is not limited to, academic issues related to curriculum (course content, teaching practice and methods of evaluation). It is recognized that although the human rights policy and procedures do provide mechanisms for addressing complaints that may involve issues related to curriculum, nothing in this human rights policy and these procedures shall be interpreted so as to alter Senate's jurisdiction in educational policy.

The policy embodied in this document reinforces the University's commitment by providing descriptions of discrimination and harassment on human rights grounds and their effects, and establishing procedures for responding to allegations of human rights violations. The purpose of this policy is to prevent discrimination and harassment through greater awareness of and responsiveness to their deleterious effects, and to ensure that occurrences are dealt with expeditiously and effectively through consistently applied policy and procedures. Human rights policy, procedure and practice are evolving areas, and the University of Guelph wishes to remain at the forefront of these developments.

## 4. Monitoring and Amendment

To facilitate the growth and development of this policy and these procedures and to facilitate their continued applicability to the U of G community, an advisory committee shall be established from among University faculty, staff and students and the Human Rights and Equity Office.

The Human Rights Advisory Group (HRAG) shall meet once every three months to comment on the progress made in implementing this policy and these procedures. In addition, every three years after their initial date of operation, this policy and these procedures will be reviewed by an external consultant chosen by and acting under the auspices of the HRAG.

Without limiting the ability of the HRAG to develop further criteria, the mandate of the external consultant shall be:

- to review the minutes of each meeting of the HRAG held during the previous three years;
- to interview each member of the HRAG with respect to his or her perceptions about the effectiveness of these policies and procedures;
- to selectively interview University of Guelph community members who have become involved with these procedures;
- to review any statistics about use of this policy and these procedures kept by the Human Rights and Equity Office; and
- to develop, as a result of these interviews and reviews, a report with recommendations about the policy and procedures and about their implementation.

On receipt of the external consultant's recommendations, the HRAG shall consider whether to make the recommended amendments to the policy and procedures.

## 5. Academic Freedom and Human Rights

Academic freedom — the right to examine, question, teach and learn freely — is a basic tenet of university life. The practice of academic freedom is supported by the provisions of the Canadian Charter of Rights and Freedoms, which guarantees everyone freedom of thought, belief, opinion and expression. The University of Guelph believes the ability to investigate, speculate, comment and criticize without deference to prescribed doctrine or authority is a precious freedom that must be protected and nurtured at all times. For the University to maintain its place as a centre of excellence and to nurture its environment of creative and original research, it is crucial that academic and intellectual independence be strong and secure.

The University acknowledges that situations arise in which there is a perceived conflict between academic freedom and human rights. A violation of either freedom is of grave concern to the institution. With respect to the interplay of human rights protection and the practice of academic freedom, it is the position of the University that, regardless of the subject matter, discussion of controversial issues in or out of the classroom is not a violation of this policy and these procedures. Academic freedom entails the right of all University community members to make statements that challenge and may even offend the sensibilities, ideas and beliefs of others. On the other hand, academic freedom does not entail a right to deny equality to or harass individuals on grounds protected by the Human Rights Code and this policy.

## 6. Ontario Human Rights Code to Prevail

Where the provisions of another policy, procedure or practice of the University purport to require or authorize conduct that is in contravention of the Ontario Human Rights Code, the provisions of the code shall prevail.

## 7. Those Covered by This Policy

While individuals or groups are acting in a capacity defined by their relationship with the University, this policy applies to and covers all University of Guelph administrators, students, employees, Board of Governors and Senate members, clients of the University, employee organizations, attendees, invitees, special-status organizations, volunteers and contractors.

## 8. Definition of Discrimination and Harassment

Human rights law has defined discrimination and harassment as the wrongful exercise of power, authority or control over others, whether intended or not, based on the following grounds:

- disability;
- gender (described as "sex" in the Ontario Human Rights Code and including pregnancy and gender identity);
- sexual orientation;
- race;
- colour;
- ancestry;
- place of origin;
- ethnic origin;
- citizenship;
- creed (faith);
- age (18 to 64 for the purposes of employment only);
- marital status;
- family status;
- receipt of public assistance (in accommodation only); and
- same-sex partnership status.

### 8.1 Discrimination

Discrimination is differential or unequal treatment that is accorded to an individual or group of individuals based on their membership in groups protected under the Ontario Human Rights Code and this policy. Discrimination may be direct or indirect. Requirements, qualifications or factors that are neutral on their face may be discriminatory if they nevertheless have the effect of preferring, excluding or restricting a group of persons who are identified by a protected ground under the code and this policy.

Discrimination can also be embedded "systemically" — that is, within the policies and procedures of an organization or a society. This "systemic discrimination" perpetuates inequality between groups of people and may be difficult to detect. It is most easily seen by its effect on its targets — by understanding who is being excluded by the "old way of doing things."

Discriminatory conduct can have the effect of "poisoning the environment" of the person who is its target. Poisoned environments create unequal and unfair conditions of learning, employment or accommodation, diminish opportunity and create situations for the victims where it is difficult — and sometimes impossible — to thrive. Discrimination, whether individual or systemic, is shaped by and, in turn, shapes social beliefs, stereotypes and assumptions.

Supervisory staff at the University of Guelph have a duty to respond to requests for reasonable accommodation and to complaints of discrimination. In cases where the obligation to accommodate based on grounds protected under the Ontario Human Rights Code and this policy arises, the failure to provide reasonable accommodation will result in discrimination against the person who requires the accommodation.

The Ontario Human Rights Code makes it clear that corporate liability can result when those with supervisory responsibilities condone (implicitly or explicitly) any discriminatory or harassing behaviour of others.

Reprisals against those who claim discrimination, such as threats, intimidation or the denial of opportunity connected to any matter covered by this policy, are prohibited under the Ontario Human Rights Code and are illegal.

### 8.2 Harassment

Harassment is a form of discrimination based on one or more of the prohibited grounds identified in this policy. Generally speaking, harassment takes place between individuals. The Ontario Human Rights Code further defines harassment as "engaging in a course of vexatious comment or conduct that is known or ought reasonably to be known to be unwelcome." Harassment can include, for example, verbal or physical abuse, jokes, slurs, graffiti, pejorative or demeaning names, and ostracism.

Discrimination based on gender can take the form of harassment, which can include a sexual advance, request for sexual favours, or sexual flirtation or banter that is known, or ought reasonably to be known, to be unwanted. It is particularly pernicious where the solicitation or advance is made by any person in a position to grant, confer or deny a benefit, privilege or advancement to another.

### 8.3 Negative Environments or Climates

Human rights law holds that negative environments or climates are created by acts or omissions that maintain offensive, hostile or intimidating climates for individuals or groups

based on one or more of the prohibited grounds of discrimination. These acts or omissions have the effect of "poisoning" the environment. In this context, discriminatory behaviours of University community members, either inside or outside the institution, while engaged in University affairs or at University-related events and functions, can have a negative effect on the University community, thus poisoning the environment for study, work or residential living.

A negative working, learning or University residential environment is characterized by supervisory acceptance of, or participation in, such matters as graffiti or pinups on walls or work spaces; language that demeans groups protected by this policy; inattention to remedying imbalances in the employment of designated-group members through implementation of the University's employment equity program; and the failure to review and change policies, practices and procedures that discriminate on any ground prohibited by this policy.

## 9. Duties and Responsibilities

The University expects that all members of its community will be positive role models to each other by:

- not engaging in human rights discrimination or harassment, and not engaging in reprisals against anyone who makes or defends a complaint of discrimination or harassment under this policy;
- addressing occurrences that may constitute discrimination and harassment and hate-group activity;
- providing assistance to those who may be the targets of discrimination and harassment;
- refraining from making bad-faith complaints; and
- presuming the innocence of those who face concerns or complaints under this policy.

The University has a duty to maintain an environment free of discrimination and harassment for all persons served by it, and it must be ever vigilant against anything that might interfere with this duty. Quite apart from its general expectations for all members of the community, the University's administrators, deans and chairs of academic departments, directors and supervisors (referred to hereinafter as "those with supervisory responsibilities") have a particular duty to take steps to prevent discrimination and harassment on the grounds covered by this policy and to support the implementation of the policy and procedures. Those with supervisory responsibilities are also encouraged to support, where established, special programs designed to eliminate disadvantage caused by discrimination.

The University has an obligation to reasonably accommodate the needs of persons with disabilities where those disabilities preclude them from carrying out the essential duties attending the exercise of their right to equal treatment in the provision of educational services or employment. The University also has an obligation to consider accommodation plans aimed at providing reasonable accommodation where a bona fide and reasonable requirement, factor or qualification established by the University has the impact of restricting, excluding or preferring a group identified by a ground protected under the Ontario Human Rights Code or where otherwise required by the code.

Those with supervisory responsibilities in relation to student instruction should ensure that the learning environment is free from discrimination and harassment and should speedily respond to breaches of this policy when they occur. It is essential that University management practices support the values embodied in this policy. Consequently, every effort shall be made to ensure that no discriminatory barriers exist in the University and that equity exists in employment policies and practices and in reasonable access to programs, resources and facilities.

### 9.1 Particular Duties of Those With Supervisory Responsibilities

Within the scope of their particular authority, those with supervisory responsibilities have particular duties to prevent and respond to human rights discrimination and harassment. These include:

- with the assistance of the Human Rights and Equity Office, facilitating the education of faculty, staff and students about these policies and procedures;
- with assistance available from the Human Rights and Equity Office, facilitating awareness training among faculty, staff and students about equality rights matters;
- informing any party who brings a concern or complaint of harassment or discrimination to their attention about this policy, including the concern and complaint resolution procedures, and about the resources and personnel available to assist them;
- speedily invoking the human rights concern resolution mechanisms under this policy and these procedures whenever warranted;
- supporting the work of the Human Rights and Equity Office in the processing and resolution of concerns and complaints, including providing the office with any material relevant to their resolution;
- working with the Human Rights and Equity Office in scheduling training and information sessions for faculty, staff and students;
- working with the Human Rights and Equity Office in the collection of data and other information regarding concerns and complaints;
- setting a good example by not condoning or participating in any discrimination or harassment in the workplace, learning or University residential environment;
- seeking advice and assistance when necessary from the Human Rights and Equity Office;
- affording fair treatment to any party known to be involved in the human rights concern and complaint resolution procedures;
- with the assistance of the Human Rights and Equity Office, providing support to the parties throughout the human rights concern, mediation and complaint resolution procedures;
- protecting the parties against reprisal; and
- with the assistance of the Human Rights and Equity Office, implementing resolutions when required.

## 10. Human Rights Concerns and Complaints

All those who are included under this policy may raise a concern or make a complaint about discrimination and harassment as defined by this policy and have access to internal complaint procedures offered by the University. It is necessary that those with supervisory responsibilities address and attempt to resolve disputes in the informal/mediated processes outlined in these procedures. When requested by a party, or where the University determines that it is necessary, a fact-finding process under these complaint procedures shall be invoked.

## 11. The Human Rights and Equity Office

The Human Rights and Equity Office reports directly through its director to the president of the University of Guelph and acts with impartiality in carrying out its mandate under this policy and these procedures.

The Human Rights and Equity Office carries the responsibility for:

- assisting those with supervisory responsibilities in the resolution of human rights concerns. The mandate of the Human Rights and Equity Office is also to manage the fact-finding process in a consistent, timely and fair manner, and otherwise act on any equity-related matters that may be referred to the office by the president of the University of Guelph.
- communicating the state of human rights at the University to the president of the University and then to the University community. In pursuit of this goal, the Human Rights and Equity Office shall publish an annual report containing both quantitative and qualitative information about human rights at the University, and the report shall also communicate the Human Rights and Equity Office's activities and programs to faculty, staff, students and the community.
- bringing to the attention of those in positions of responsibility any apparent gaps or inadequacies in University policy, procedures and practices that discriminate against individuals or groups based on prohibited grounds.
- helping those who are involved in the discrimination and harassment concern, dispute and complaint resolution procedures under this policy to acquire the assistance and support of trained personnel. For this purpose, the Human Rights and Equity Office shall establish and maintain volunteer groups of fact-finders and human rights resource persons drawn from the University community. The roles of both the fact-finders and human rights resource persons are provided later in this document.

In accordance with the above, these functions shall be carried out by:

- encouraging concerns and complaints to be resolved informally, if possible;
- ensuring that adequately trained personnel are available to assist and represent those involved in the process;
- training those with supervisory responsibilities about their duties under Ontario human rights law, this policy and these procedures;
- ensuring that adequately trained fact-finders are available to assist in the alternative dispute resolution processes and in fact-finding for complaints;
- where applicable, involving unions and/or employee associations in the resolution of concerns, disputes and complaints, and in any accommodation that may become necessary;
- ensuring that University-wide training is conducted in relation to the University's expectations under this policy;
- advocating for equality rights principles within the University; and
- ongoing monitoring of the resolution of complaints to ensure that the appropriate recommendations are consistently implemented.

# II. Procedures for the Resolution of Human Rights Discrimination and Harassment Concerns and Complaints

## 1. Coverage and Purpose of These Procedures

While individuals or groups are acting in a capacity defined by their relationship with the University, the policy and procedures embodied in *Human Rights at the University of Guelph* apply to and cover all University of Guelph administrators, students, employees, Board of Governors and Senate members, employee organizations, clients of the University, attendees, invitees, special-status organizations, volunteers and contractors.

The procedures explained below accord with the preceding policy and provide a mechanism for dealing with human rights concerns and complaints. Nothing in the procedures denies or limits access to other avenues of redress available under the law, such as a complaint to the Ontario Human Rights Commission or a union or association grievance.

The goal of the procedures presented here is to resolve concerns and complaints regarding discrimination and harassment in a fair and satisfactory manner. There are three processes through which a concern or complaint of discrimination or harassment may proceed: the human rights concern process, mediation and the complaint process (which includes a fact-finding). The choice of process will be determined by the complainant and the facts of each case as represented in the concern or complaint.

Translation services shall be provided through the Human Rights and Equity Office or the University's Judicial Office, should they be needed.

## 2. Human Rights Resource Persons and Fact-Finders

The Human Rights and Equity Office shall be responsible for seeking volunteers from the University community to establish a pool of fact-finders. This group will be trained to be impartial third parties during mediation and to assist in the resolution of complaints in accordance with the provisions of this procedure. Fact-finders will be deployed by the University's Judicial Office.

The Human Rights and Equity Office shall also be responsible for seeking volunteers from the University community to establish a separate pool of human rights resource persons. This group will be trained to provide advice to individuals or groups who become engaged in these procedures. Human rights resource persons will be deployed from the Human Rights and Equity Office to advise disputants during mediation and/or to accompany complainants or respondents to fact-finding interviews.

The selection of members of the University community wishing to serve as fact-finders or human rights resource persons shall be conducted by a subcommittee of the HRAG, which shall, by full consensus, establish selection criteria, post advertisements, draft behaviour-based questions for candidates, receive and shortlist applications, and shortlist and select candidates from among the University's faculty, staff and students for the advertised positions. The full list of fact-finders shall be forwarded to the University's judicial officer, who shall bear the responsibility of deploying fact-

finders upon the establishment of fact-finding teams. The full list of human rights resource persons shall be forwarded to the Human Rights and Equity Office.

## 3. Confidentiality

Those with supervisory responsibilities engaged in implementing the concern and complaint resolution procedures under this policy are required to maintain the confidentiality of this procedure. This shall include refraining from discussions or releasing information in any form beyond that which is permitted under this policy or is required by law. A substantiated improper breach of confidentiality can result in disciplinary action.

This confidentiality requirement does not preclude those with supervisory responsibilities from:

- communicating with witnesses and potential witnesses, with care not to leave the appearance of having coached them;
- within the context of the concern or complaint, communicating with any other person whom they believe could be of assistance;
- providing information about the concern or complaint to the Human Rights and Equity Office for consultation or record-keeping purposes; or
- reporting information to the appropriate authority at the University when it is believed that the health or safety of any member of the University community may be at risk (e.g., the University's Security Services).

Parties to a complaint under this policy also have a responsibility to maintain the confidentiality of the concern and complaint resolution procedures. Any alleged breach of this confidentiality will be addressed by the fact-finding team, which will determine whether or not the breach was improper and will recommend how to proceed to the appropriate person with supervisory responsibilities.

All correspondence and other documents generated under these procedures must be marked "Private and Confidential." This documentation is to be maintained within these confidentiality provisions by the Human Rights and Equity Office and those with supervisory responsibilities who handled the complaint.

## 4. Duties and Responsibilities of Those With Supervisory Responsibilities

Those with supervisory responsibilities may become aware of discrimination or harassment in the workplace, University residential or learning environment in different ways. They may directly observe incidents that they believe to constitute discrimination or harassment; they may receive allegations from the individual affected, a witness or other third party; or they may be informed of the alleged incidents through the Human Rights and Equity Office. The policy and procedures embodied in *Human Rights at the University of Guelph* require that all those who are covered by the policy immediately address alleged occurrences of discrimination and harassment.

Those with supervisory responsibilities are to remain aware of possible signs that someone in their area may be experiencing harassment or discrimination. These signs can include changes in behaviour, reduced productivity, inattention to studies, absenteeism, requests for transfers and the presence of rumors. Those with supervisory responsibilities should carefully consider what they can do to create the support necessary for someone who may have experienced harassment or discrimination to come forward and report her/his concerns. Without support, some people may be reluctant to report harassment or discrimination.

In all cases, there is a duty to respond under these procedures as outlined below. There is also a concurrent duty to fully inform and advise those who are — and have the potential of becoming — involved in these procedures about the policy and procedures and about the resources and personnel available to assist them.

If a concern or complaint made under this University policy relates to a policy, procedure or practice that allegedly negatively affects the student or employee, the issue is not only between two individuals, but is also an institutional issue that the University must address. Such matters should be speedily discussed with staff in the Human Rights and Equity Office. In general, if doubt exists about whether or not a situation constitutes discrimination or harassment or about what steps should be taken, the matter should be discussed with staff in the Human Rights and Equity Office.

To commence the process under these procedures, those with supervisory responsibilities who receive a human rights complaint filed as a complaint on the prescribed form shall retain a copy and forward the original of the complaint to the Human Rights and Equity Office.

Reprisals against individuals because they have participated in the human rights process by, for example, reporting, responding to or providing information about a concern or complaint are strictly forbidden. Alleged reprisals shall be treated as complaints and, if substantiated, are subject to the same consequences as complaints of discrimination or harassment.

## 5. The Concern and Complaint Resolution Process

Under this policy, a complainant may choose from among three separate processes for resolving human rights disputes:

- human rights concerns;
- mediation; and
- complaint process.

Individuals are encouraged to seek a resolution of matters through the more informal "human rights concern" procedures provided below, but each type of resolution is valid and complete in and of itself. One need not lead to another. At any time during the human rights concern or complaint resolution processes, the parties may request mediation and suspend the process in which they are currently engaged. In addition, resolution of a concern may be stopped and replaced by a complaint process. To encourage use of mediation, however, any information gathered solely during mediation is not transferable to a complaint.

U of G employees who are covered by a collective agreement or other policy with the University have an obligation to file grievances within a specific period. In such cases, employees may elect to hold the processing of their grievance in abeyance until such time as their complaint under these procedures has been resolved.

It is understood that a speedy resolution of a dispute may prevent both escalation and further negative consequences, while creating or maintaining a healthy learning, University residential or workplace environment.

Statements made in bad faith by any person who becomes engaged in these procedures may lead to disciplinary outcomes.

Nothing in this procedure precludes the University from invoking a fact-finding in accordance with these procedures in a situation where the University reasonably believes that discrimination or harassment may have occurred, even though no person has complained about a violation of the University's human rights policy.

## 6. Human Rights Concerns

### 6.1 Response to Human Rights Concerns by Those With Supervisory Responsibilities

Bringing forward a human rights concern to a person with supervisory responsibilities is the most direct and immediate of the processes contemplated under this policy and these procedures. Articulating a human rights concern to those with supervisory responsibilities permits them to deal with the dispute in a manner that helps the parties develop greater understanding of the issues involved. In the case of a human rights concern alleging harassment or discrimination, this process involves some form of direct communication between the parties involved — directly person to person, by correspondence or by using a third party. Although this method cannot be used in all cases, it is very effective when there is willingness on the part of all parties to come together to quickly resolve an issue.

In the case of an individual who alleges discrimination because, for example, a policy, procedure or practice of the University, a college, department or organization occupying space within the University, or because of the failure of the University, a college, a department or an organization to provide an accommodation, articulating human rights concerns to a person with supervisory responsibility may provide an opportunity for an expeditious resolution.

Taking a human rights concern to a person with supervisory responsibilities is not a precondition to mediation or to filing a human rights complaint, and an individual or group may proceed at any time to mediation or to a human rights complaint.

Those with supervisory responsibilities are to be reminded that an agreement may have been reached between the parties that a record of the resolution of the concern be placed in an individual's personnel file. Unless such an agreement has been reached, those with supervisory responsibilities shall not use the fact of the concerns having been raised or resolved in any performance review or other evaluation of the individuals concerned.

There are four options that those with supervisory responsibilities should consider to manage human rights concerns. The Human Rights and Equity Office can be consulted in assessing these options.

*Option 1: Inform both parties of policy and procedures.*

Inform both parties about the existence of this policy and outline for both parties the steps to be followed. When this is done, it is important that the person with supervisory responsibilities follow up with both parties to determine how they wish to proceed.

*Option 2: Discuss human rights concern directly with the other party.*

Suggest to the person expressing the concern, where appropriate, that she or he approach the person whose behaviour gives cause for concern, making it clear why the behaviour gives rise to the concern and that the offending behaviour is not acceptable. When this is done, it is important that the person with supervisory responsibilities follow up with both parties to see whether the encounter was successful and that the resolution is one consistent with outcomes supported by this policy and these procedures.

*Option 3: Present human rights concern and inform other party of the University's policy.*

Suggest to the person expressing the concern, where appropriate, that she or he approach the person whose behaviour is in question, explain the concerned person's understanding of the University's expectation of appropriate behaviour and provide the person whose behaviour is in question with a copy of *Human Rights at the University of Guelph*. When this is done, it is important that the person with supervisory responsibilities follow up with both parties to see whether the encounter was successful and that the resolution is one supported by this policy and these procedures.

*Option 4: Provide third-party assistance.*

If either party is not comfortable speaking privately with the other, a person who is trained to facilitate the resolution of human rights concerns and who is acceptable to both parties may assist. When this is done, it is important that the person with supervisory responsibilities follow up with both parties to see whether the encounter was successful and that the resolution is one supported by this policy and these procedures

### 6.2 Important Points for Facilitating Human Rights Concerns

(i) Those with supervisory responsibilities managing human rights concerns on grounds covered by this policy may facilitate a resolution by helping the person concerned develop a plan of action. This plan may include a variety of initiatives, such as the person concerned speaking with or writing to the person whose behaviour is being questioned. Such communications could include a statement that the alleged incident is possibly in violation of University policy and requesting an end to the alleged behaviour. When a plan is implemented, those with supervisory responsibilities shall follow up by monitoring the situation and, if necessary, holding meetings (together or separately, as appropriate) with both parties.

(ii) Those involved should be advised to take notes about the situation, including when the alleged incident or incidents occurred and who was present. Both parties should be advised that, except where information is obtained solely for the purpose of mediation, correspondence about the matter could become a record should the conduct allegedly be repeated.

(iii) Note that, in some cases, it will not be appropriate to propose to the person concerned that he/she speak privately about her/his human rights concerns with the person whose behaviour is in question. For example, if concerns have been raised about personal safety or intimidation, or if the person concerned believes the situation will escalate as a result of a private confrontation, the person concerned should be supported in pursuing other options. In assessing or exercising her/his options, either the person concerned or the person whose behaviour is alleged to be unacceptable may seek confidential advice and assistance from a University human rights resource person from the list of those available through the Human Rights and Equity Office.

(iv) When human rights concerns arise, a resolution supported by a union and/or other employee group is desirable, whenever applicable and possible. In such circumstances, those with supervisory responsibilities shall ensure that there has also been compliance with the terms of this policy and these procedures.

## 7. Mediated Resolution

Where alleged harassment is the basis of the dispute, mediation involves a third party acting as a facilitator in direct communication between the two disputants. Where systemic discrimination or a failure to accommodate a person with a disability is alleged, the parties to a mediation may include the individual disputing the policy, practice or procedure, as well as those with supervisory responsibility in the matter. Mediation is not appropriate when only one disputant is committed to the process. Mediation may not be appropriate in circumstances where there have been allegations of physical violence, threats to safety, serious emotional or physical abuse or intimidation, or where the relationship between the disputants is that of supervisor and supervisee. Mediation does not, unless it is agreed to by the parties, lead to disciplinary outcomes. Any party to a dispute may call for a mediated resolution at any time.

A mediated resolution is not a precondition to filing a complaint, and an individual or group may proceed at any time to a complaint. Where there is already a complaint subject to fact-finding under these procedures, the parties may agree at any time during the fact- finding to hold that process in abeyance and seek a resolution through mediation.

Those with supervisory responsibilities shall advise both parties to mediation that information obtained during mediation or an attempted settlement arising from the mediation is "off the record" or "without prejudice" and cannot be introduced as evidence in any subsequent fact-finding or hearing.

Whenever mediation is sought, the Human Rights and Equity Office shall provide or approve trained mediators who are acceptable to both parties. The mediators will work on behalf of the Human Rights and Equity Office, ensuring that the University becomes a party to the mediation. In any one case, the mediator(s) shall be drawn from a workplace, learning or University residential environment other than that of the disputants.

Any settlement must be mutually accepted by the parties and approved by the Human Rights and Equity Office and by those with supervisory responsibilities who are responsible for implementing or monitoring the terms of the agreement. Where an employee union or other employee group has been involved in the process, their support for the settlement is welcomed.

Meetings required for mediation sessions will be scheduled by the Human Rights and Equity Office. To avoid additional expense or interference with University programs or business, these meetings should take place as quickly as possible and should balance convenience for the complainant, the respondent and the mediator.

Mediators cannot be compelled to give evidence in any future or concurrent proceeding regarding any information disclosed during the mediation process.

For more information on the mediation process, refer to the pamphlet on mediation available from the Human Rights and Equity Office.

## 8. The Complaint Process

The complaint process commences with the submission of a written signed and dated complaint. The next step in the process will be a fact-finding that determines the facts giving rise to the complaint. Ordinarily during this process, the fact-finding team will interview witnesses. A fact-finding report is produced that contains facts, allegations, responses, findings and conclusions. After the report has been written, the appropriate University vice-president determines whether the complaint should proceed to a hearing by a disciplinary tribunal, judicial committee or staff human rights committee of the University.

### 8.1 General

On receiving a complaint, the Human Rights and Equity Office will establish a fact-finding team, as described later in this section.

Although the fact-finding procedures refer to an individual complainant and respondent, the procedures also apply to group complaints and group responses.

Fact-finding teams shall gather evidence in a manner consistent with the rules of evidence observed by the University of Guelph tribunals to which they ultimately report.

The fact-finding team may decide to suspend any fact-finding in the event the complaint is amenable to — and the parties mutually decide to resort to — mediation. In determining whether a complaint is amenable to mediation, a fact-finding team will consider factors such as:

- the University's legal responsibility to provide an environment free from harassment and discrimination; and
- whether the matter involves express or implied threats, intimidation or coercion.

The fact-finding team may decide to postpone, suspend or cancel any fact-finding if its continuance would duplicate or prejudice another proceeding or bring the administration of this policy and procedure into disrepute. In coming to a decision, the fact-finding team will consider such factors as:

- the University's legal responsibility to provide an environment free from harassment and discrimination;
- the recognition that grievances may be filed simultaneously with complaints to comply with negotiated timelines. (Should a complainant under these circumstances elect to grieve a human rights matter under his/her collective agreement or other policy established with the University rather than through this policy and procedures, the University reserves the right to continue with its own fact-finding to address the matter in compliance with its obligations under the Ontario Human Rights Code);
- other legal procedures that may be initiated to protect statutory rights; and
- the wishes of the parties.

The fact-finding team shall attempt to make all decisions by full consensus. Where full consensus is not possible, the fact-finding team shall vote on the issue and abide by a majority decision.

The filing of a counter-complaint by a respondent against a complainant regarding matters subject to a fact-finding under these procedures will not result in a separate fact-finding. The allegations raised by the respondent will be addressed within the scope of the original fact-finding.

Anonymous complaints against an individual or group will not be accepted as complaints.

### 8.2 Timelines for Filing a Complaint

All complaints must be reported within six months of the most recent alleged discriminatory or harassing behaviour, as prompt reporting protects the rights of all parties to a complaint. This six-month time limit does not apply when the time limit has elapsed as a result of a complainant or disputant attempting to resolve the matter either informally or through mediation. Further, the time limit may be extended where the complainant's delay has occurred in good faith and does not prejudice the respondent in defending against the complaint.

To seek a waiver of the six-month time limit for filing complaints, complainants who are faculty members or students shall seek, through the fact-finding team, the approval of the vice-president (finance and administration). To seek a waiver of the six-month time limit for filing complaints, staff members shall seek, through the fact-finding team, the approval of the provost and vice-president (academic).

No timelines under these procedures are in effect until the Human Rights and Equity Office receives the completed and signed complaint form.

### 8.3 Reporting a Complaint

For a complaint to be made under these procedures, the complainant must complete the prescribed complaint form (see Appendix B). Usually, the individual affected by the alleged discrimination or harassment will file a complaint. Complaints may also be made by persons representing the complainant or by persons who witnessed the alleged behaviour. In all cases, the complaint form shall be forwarded to the University's Human Rights and Equity Office.

### 8.4 Assistance in Preparing a Complaint

In the preparation of a complaint, individuals are encouraged to seek the assistance of any of these individuals:

- human rights resource person from a roster maintained by the Human Rights and Equity Office;
- union or association representative;
- representative of a student organization; or
- employee, colleague, friend or relative.

### 8.5 Actions of the Human Rights and Equity Office on Receiving a Complaint

On receiving the written complaint, the Human Rights and Equity Office shall take the following steps:

(i) Review the complaint to determine if:
  (a) the University has jurisdiction;
  (b) the allegation(s) are based on a prohibited ground;
  (c) the most recent alleged incident occurred within the past six months; and
  (d) if there are any safety or health concerns that require immediate action. This may include, for example, recommending to the appropriate supervisor that the parties should be separated in their current learning, University residential or working environment.

(ii) Within two University working days of receipt of the complaint:
  a) notify the appropriate person(s) with supervisory responsibilities of the complaint;
  b) notify the complainant in writing of receipt of the complaint and include a copy of *Human Rights at the University of Guelph*; and
  c) notify the respondent in writing of receipt of the complaint and include a copy of the policy and the complaint form with any attachments.

(iii) Within 10 University working days, solicit a written response to the complainant's allegations from the respondent.

(iv) Communicate the respondent's written response to the complainant and, within 10 University working days, solicit a written reply to the respondent's response.

(v) Within 10 University working days of receipt of a complaint form, strike a fact-finding team and commence the fact-finding process into the complaint on receipt of the complainant's reply in (iv) above.

### 8.6 Assistance and Representation for Complainants, Respondents and Witnesses During the Fact-Finding Process

Persons who are parties to the fact-finding process may seek assistance from any of these individuals and, if desired, be accompanied by up to two of these individuals during the process:

- a human rights resource person from a roster maintained by the Human Rights and Equity Office;
- a union or association representative;
- an employee, colleague, friend or relative; and
- a student.

### 8.7 Scheduling Meetings

Meetings required under these procedures should occur as quickly as possible on a balance of convenience for the complainant, the respondent and the Human Rights and Equity Office.

Responsibility for managing the fact-finding process and ensuring compliance with *Human Rights at the University of Guelph* rests with the University's Human Rights and Equity Office.

### 8.8 Complaints Against Deans, Staff Directors, Chairs, Academic Directors, Vice-Presidents, the President of the University and Members of the Board of Governors

*Deans and Staff Directors*

Whenever a written complaint has been filed against a dean or staff director, the Human Rights and Equity Office shall establish a fact-finding team composed of the director of the Human Rights and Equity Office, the vice-president to whom the dean or staff director reports or the vice-president's designate, and one fact-finder.

The fact-finding team will, in conformity with all other parts of this procedure, complete the fact-finding report.

The fact-finding record relating to the complaint, consisting of the final report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to a vice-president to whom the dean or staff director does not report. If the vice-president in receipt of the record determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall impose whatever outcomes she/he deems appropriate in conformity with the provisions outlined in 8.21 below.

*Chairs and Academic Directors*

Whenever a written complaint has been filed against a chair or academic director, the Human Rights and Equity Office shall establish a fact-finding team composed of the director of the Human Rights and Equity Office, a dean to whom the chair or academic director does not report, or the provost and vice-president (academic)'s designate, and one fact-finder.

The fact-finding team will, in conformity with all other parts of this procedure, complete the fact-finding report.

The fact-finding record relating to the complaint,

consisting of the final report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to the provost and vice-president (academic). If the provost and vice-president (academic) determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall impose whatever outcomes she/he deems appropriate in conformity with the provisions outlined in 8.21 below.

*Vice-Presidents, the President of the University and Members of the Board of Governors*

Whenever a written complaint has been filed against a vice-president, the president of the University or a member of the Board of Governors, the Human Rights and Equity Office shall establish a fact-finding team composed of the director of the Human Rights and Equity Office, a University vice-president and one fact-finder drawn from the community outside of the University.

The fact-finding team will, in conformity to all other parts of this procedure, complete the fact -finding report.

The fact-finding record relating to the complaint, consisting of the final report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to legal counsel with expertise in human rights law and alternative dispute resolution. If the legal counsel in receipt of the record determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall recommend to the president with respect to complaints against vice-presidents, to the Board of Governors with respect to the president of the University and to the president and the Board of Governors with respect to complaints against individual members of the Board of Governors, whatever outcomes she/he deems appropriate in conformity with the provisions outlined in 8.21 below.

## 8.9 Complaints Against Members of the Human Rights and Equity Office

Whenever a written complaint has been filed against a member of the Human Rights and Equity Office, the University president shall establish a fact-finding team composed of a vice-president of the University, a departmental chair and a staff director.

The fact-finding team will, in conformity to all other parts of this procedure, complete the fact-finding report.

The fact-finding record relating to the complaint, consisting of the final report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to the University president. If the University president determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall impose whatever outcomes she/he deems appropriate in conformity with University policy governing disciplinary outcomes for professional/managerial or support staff.

## 8.10 Fact-Finding Teams in Complaints Against Faculty, Staff and Students

*Faculty*

Whenever a written complaint has been filed against a faculty member, the Human Rights and Equity Office shall establish a fact-finding team composed of either the director of the Human Rights and Equity Office or a human rights consultant from the Human Rights and Equity Office, the chair or director of the respondent faculty member's department, and one fact-finder who shall be appointed hy the University's judicial officer from the list of available fact-finders.

*University Staff*

Whenever a complaint has been filed against a University staff member, the Human Rights and Equity Office shall establish a fact-finding team composed of either the director of the Human Rights and Equity Office or a human rights consultant from the Human Rights and Equity Office, a staff member at the director level drawn from the pool of fact-finders, and one other non-managerial fact-finder who shall be appointed by the University's judicial officer from the list of available fact-finders.

*Students*

Whenever a complaint has been filed against a student, the Human Rights and Equity Office shall establish a fact-finding team composed of either the director of the Human Rights and Equity Office or a human rights consultant from the Human Rights and Equity Office, and two fact-finders, at least one of whom shall be an undergraduate or graduate student, as appropriate. These two fact-finders shall be appointed by the University's judicial officer from the list of available fact-finders.

*Other Users of University Premises and Programs*

Whenever a complaint has been filed against other users of University premises or programs, the Human Rights and Equity Office shall establish a fact-finding team composed of either the director of the Human Rights and Equity Office or a human rights consultant from the Human Rights and Equity Office, one senior employee from the University's Human Resources Division and one fact-finder. Decisions of the fact-finding team with respect to other users of University premises shall be final and shall be referred for implementation to the person(s) with supervisory responsibilities over the area within which the complaint arose.

*Potential Conflicts of Interest*

Immediately after a fact-finding team has been convoked, the fact-finders shall disclose to one another any potential conflicts of interest they have with any of the parties to the complaint.

The fact-finding team shall determine whether a declared potential conflict of interest shall result in the member's recusing herself or himself from all consideration of the complaint.

The nature and circumstances of all declared potential conflicts of interest, together with the fact-finding team's conclusions regarding the matter, shall be noted in writing in both the preliminary and final report concerning the complaint.

Any party to a complaint may challenge the appointment of one or more individuals to a fact-finding team on the ground that the individual has a potential conflict of interest in the outcome of the matter. A party raising the challenge shall state the challenge in writing to the director of the Human Right and Equity Office.

Where the director of the Human Rights and Equity Office has received a challenge to the appointment of one or more members of a fact-finding team, the director shall immediately forward all documentation regarding the challenge to the vice-president (finance and administration) in the case of faculty or student challengers and to the provost and vice-president (academic) in the case of staff challengers.

The decision of the vice-president with regard to the existence of a potential conflict of interest shall be made within five University working days of having received the challenge, and the decision will be final.

## 8.11 Timelines

From the initiation of the process to the issuing of a draft report to the parties, a fact-finding process shall be completed within 50 University working days. Requests by the fact-finding team to extend any timeline established under these procedures, based on reasonable grounds, shall be submitted to the vice-president (finance and administration) in the case of faculty or student respondents and to the provost and vice-president (academic) in the case of staff respondents.

## 8.12 Interim and Protective Measures

Immediately after the complaint is filed, the director of the Human Rights and Equity Office, in consultation with the appropriate supervisory or academic personnel, shall determine if any immediate action or interim measures are required to protect the University community or any of its members. These measures may include limiting access to facilities, arrangements for alternative grading or supervisory relationships, or discontinuing contact between the complainant and the respondent during the period of the proceedings. Interim measures, if required, are to be implemented by the appropriate University personnel.

## 8.13 Separation of the Parties

The director of the Human Rights and Equity Office, in consultation with the appropriate supervisory or academic personnel shall, on a balance of probabilities, determine:

(i) whether the continued proximity of the complainant and respondent will impair the ability of either to function at their studies, at work or in their University residential environment;

(ii) whether there has been a reprisal or whether the threat of reprisal exists; and

(iii) whether the complainant or respondent poses a risk to one another or to others.

Where it has been determined that one or more of the above three tests has been met, if practicable, the respondent (or the complainant, if necessary) shall be transferred to another department or workplace without loss of wages and benefits, pending final disposition of the complaint.

If this is not possible or if it can be shown that the respondent or complainant poses a risk to each other or to others, pending final disposition of the complaint, an employee respondent (or complainant, if necessary) shall be placed on home assignment without loss of wages and benefits; and a student respondent (or complainant, if necessary) shall be excluded from one or more of her/his classes, residence or the University in accordance with the University's regulations governing student behaviour. Where such precautions are taken with respect to students, the students' studies shall be supported pending the outcome of the situation.

To the extent practicable, other users of University premises or premises where University programs take place who are respondents shall be required to have no contact, either direct or indirect, with a complainant until the fact-finding has been concluded and its recommendations acted on.

Note that a separation pursuant to this provision should not be viewed as "discipline" or a "transfer" within the meaning of any collective agreement or policy.

## 8.14 Withdrawing a Complaint

A complaint may be withdrawn at any time, but the withdrawal of the complaint must be done in writing. The withdrawal of a complaint will not stop a fact-finding process if the fact-finding team has a reasonable belief that:

- discrimination or harassment has occurred;
- the withdrawal of the complaint would prejudice the respondent; or
- the complaint was malicious.

In such circumstances, the fact-finding team shall proceed to conduct or complete a fact-finding into the matter.

## 8.15 Preliminary Fact-Finding Process

The written complaint shall be delivered to the respondent through the respondent's supervisor or, in the case of a student, through the dean of the college in which the student is enrolled. Within 10 University working days, the respondent shall, through her/his supervisor or dean, deliver a written response to the fact-finding team. On receipt of the respondent's statement, the fact-finding team will review both the complaint and the response to ascertain whether there is an obligation to conduct a fact-finding or whether further consultation with the complainant or respondent is required to determine whether a fact-finding should take place.

A fact-finding team may recommend the striking of all or part of a complaint or response where the complaint or response is without merit or foundation and where there is no reasonable likelihood that further proceedings would establish that the claim or response has merit or foundation.

A fact-finding team may recommend the striking of a complaint or response made in bad faith.

## 8.16 The Fact-Finding Plan

In the event that the fact-finding team determines that a fact-finding should take place, it shall devise a written fact-finding plan under which it will interview the complainant, the respondent and all witnesses whom the fact-finding team determines to have any information relevant to the allegations. In addition, the fact-finding team shall list those persons who, although named as witnesses, in its view had no information bearing on the allegations or were not available for interview. If it appears to the fact-finding team that other persons not named by the parties may have information related to the complaint, every effort should be made to interview these potential witnesses. It may also be necessary to re-interview the complainant and/or respondent before issuing the draft report.

Every attempt shall be made to interview the complainant first. Usually, the respondent will be interviewed second because the respondent has the right to reply fully to allegations made against her/him and name her/his witnesses. If a party or witness declines to participate in a fact-finding process, the process shall proceed to a conclusion and any resulting recommendations will be forwarded to the appropriate person(s) with supervisory responsibilities. In all circumstances, interviews with witnesses shall occur after the complainant and respondent have been given an opportunity to be interviewed.

## 8.17 Standard of Proof

Conclusions about whether a specific allegation did or did not occur are based on a "balance of probabilities," the same standard used in human rights inquiries and civil law matters, and not on the more stringent standard of "beyond a reasonable doubt" used in criminal trials.

## 8.18 Draft Fact-Finding Report

Once the fact-finding process is complete, the fact-finding team shall, within 15 University working days, give a draft report to the parties detailing:

- alleged facts giving rise to the complaint;
- grounds in this policy that have allegedly been violated;
- response;
- analysis;
- findings; and
- conclusions.

## 8.19 Right to Respond

The complainant and respondent have the right to comment in writing on the draft report before a final report is issued. Comments must be submitted to the fact-finding team within 10 University working days of receipt of the written draft report. Requests by the complainants or respondents to extend the timeline for commenting on the draft report, based on reasonable grounds, shall be submitted to the fact-finding team for consideration. Permission for such an extension shall not be unreasonably withheld.

## 8.20 The Final Fact-Finding Report

Based on the results of the fact-finding process and the responses to the draft report, the fact-finding team will prepare a final report. Although the fact-finding team is responsible for making recommendations arising from any matters in the complaint that have been substantiated, the final report shall not contain those recommendations. Any recommendations made by the fact-finding team shall be sealed and retained by the Human Rights and Equity Office in accordance with 8.25 below.

Copies of the final report will be distributed by the Human Rights and Equity Office to tbe complainant and the respondent and, in the case of the parties' refusal or inability to mediate, to the appropriate vice-president, associate vice-president or dean.

This final report is to be completed within 20 University working days of the receipt of comments on the draft report from the complainant and respondent. If no comments are received, the final report is to be completed within 10 days of the deadline set for receipt of the comments.

## 8.21 Hearing by a Disciplinary Tribunal, Judicial Committee or Staff Human Rights Committee

*Faculty*

If the respondent to a complaint is a faculty member, the record relating to the complaint, consisting of the final fact-finding report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to the dean of the college in which the matter originated. If the dean determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall forward the matter to the provost and vice-president (academic).

The provost and vice-president (academic) shall review the record and determine whether sufficient evidence of a breach of this policy and these procedures exists to justify referring the matter to a disciplinary tribunal established under the University's faculty policy or under the terms and conditions of employment for professional librarians. If the provost and vice-president (academic) determines that sufficient grounds exist to proceed to a hearing, she/he will simultaneously refer the matter for a hearing and notify the complainant, the respondent, the appropriate dean and the fact-finding team of her/his decision and the reasons for the decision.

If the provost and vice-president (academic) determines that insufficient grounds exist to proceed to a hearing, she/he will notify, in writing, the complainant, the respondent, the appropriate dean and the fact-finding team of her/his decision and the reasons for the decision.

*University Staff*

If the respondent to a complaint is a University staff member, the record relating to the complaint, consisting of the final fact-finding report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to the University vice-president to whom the individual ultimately reports. If the University vice-president determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall notify the complainant, the respondent and the fact-finding team of her/his decision and forward the matter to a hearing of the Staff Human Rights Committee, which shall be convoked by the vice-president (finance and administration) or the provost and vice-president (academic), as appropriate.

If the University vice-president determines that insufficient grounds exist to proceed to a hearing, she/he will notify in writing the complainant, the respondent and the fact-finding team of her/his decision and the reasons for the decision.

*Students*

If the respondent to a complaint is a student, the associate vice-president (student affairs) or her/his designate shall have carriage of the complaint throughout the process. In such cases, the fact-finding record relating to the complaint, consisting of the final report without recommendations and any witness statements gathered during the fact-finding process, shall be forwarded to the associate vice-president (student affairs). If the associate vice-president (student affairs) determines there is sufficient evidence of a breach of this policy and these procedures, she/he shall simultaneously refer the matter to a hearing of the University's judicial committee and notify the complainant, the respondent and the fact-finding team of her/his decision.

If the associate vice-president (student affairs) determines that insufficient grounds exist to proceed to a hearing, she/he will notify, in writing, the complainant, the respondent and the fact-finding team of her/his decision and the reasons for the decision.

## 8.22 Outcomes of Fact-finding Processes

To facilitate consistency in decision making across the three panels referred to in this procedure, fact-finding teams shall, in the event that they conclude a complaint has been substantiated either in whole or in part, commit to writing whatever recommendations they deem appropriate in the circumstances.

To safeguard the impartiality of future steps in the complaint process, the fact-finding team's recommendations shall not be forwarded with the fact-finding report.

A fact-finding team's recommended outcomes shall be retained within the Human Rights and Equity Office unless and until the complaint has been substantiated in part or in whole and a hearing panel has exercised its discretion to request submissions about an appropriate remedy from the fact-finding team.

Where a fact-finding team or a hearing panel believes that it is warranted, without regard to the progressive disciplinary steps outlined below, they may, on a request by a hearing panel for submissions with respect to remedy, recommend such remedy as they believe is appropriate in the circumstances.

If the complaint is not substantiated, no further action will be taken, subject to the following section on maintaining records. A substantiated complaint under these procedures will result in discipline as follows:

*Faculty and Staff Respondents*

Subject to the provisions of existing University policies and collective agreements, the fact-finding team may recommend that on the first substantiated incident, the respondent shall be issued at least a written reprimand and that second and subsequent violations of this policy must lead to increased penalties.

Whenever a complaint has been substantiated, the appropriate supervisor shall ensure that a record of the disciplinary outcome be placed in the respondent employee's official personnel file, subject to the provisions of any applicable collective agreements and policies.

If two years or less old, a respondent employee's prior disciplinary record established under this policy may be submitted to a hearing panel to assist the panel in determining the appropriate disciplinary outcome in a subsequently substantiated matter.

Whenever a complaint has been substantiated, the complainant and respondent, through their appropriate supervisor, shall receive a copy of the decision of the hearing panel complete with any recommendations made by the panel. The appropriate supervisor shall meet with the Human Rights and Equity Office representative from the particular fact-finding team regarding implementation of the hearing panel's recommendation(s).

*Student Respondents*

In making its recommendations on student breaches of this policy and these procedures, the fact-finding team will follow the appropriate disciplinary penalties set out in the University's student regulations.

Whenever a complaint has been substantiated, a record of the disciplinary outcome will be attached to the respondent student's University record for two years or until the student ceases to be enrolled at the University. In the event that a student ceases to be enrolled but subsequently re-enrols in the University before the expiry of two years from the date at which he/she was found to have violated this policy, the pre-existing record containing the disciplinary outcome shall be reattached to the respondent student's record, and the student shall be informed that this measure has been taken.

If two years or less old, a respondent student's prior disciplinary record established under this policy may be submitted to a hearing panel to assist the panel in determining the appropriate disciplinary outcome in a subsequently substantiated matter.

Whenever a complaint has been substantiated, the complainant and respondent, through the judicial officer, shall receive a copy of the decision of the hearing panel complete with any recommendations made by the panel. The judicial officer shall meet with the Human Rights and Equity Office representative from the particular fact-finding team regarding implementation of the hearing panel's recommendation(s).

*Respondents Who Are Other Users*

Outcomes must be deemed appropriate for the individual situation and may include such responses as a letter of disapproval and warning, revocation of permits or contracts, issuance of a no-trespassing warning or notification to the police of the violation of this policy.

## 8.23 Additional Remedies

In addition to disciplinary outcomes, other actions may include:

- restorative sessions designed to develop a positive learning, University residential or working environment;
- mediation;
- offering the possibility of specific counselling;
- permanent separation of respondent and complainant from each other;
- rearrangement of residence placements; and
- specific accommodations for, among others, people with disabilities.

Complainants may require other assistance as is deemed appropriate, taking into account all the circumstances and based on the principle that complainants should be restored to the position they would have occupied had the discrimination or harassment not occurred. For example, resolutions may include awarding a promotion to a complainant if a job competition is found to be discriminatory or independently re-evaluating student work and exams when a discriminatory evaluation has been substantiated.

## 8.24 Remedies for Systemic Discrimination

Where a fact-finding team concludes that systemic discrimination has taken place and where a hearing panel concurs in the conclusions of the fact-finding team, not only shall individuals be placed in the position they would have been in had the discrimination or harassment not occurred, but proactive steps should also be taken to ameliorate existing conditions. In such circumstances, a hearing panel shall refer its recommended actions to the appropriate University vice-president(s) responsible for the affected area(s).

## 8.25 Records

Records of all fact-finding processes for complaints will be kept in the University's Human Rights and Equity Office for two years from the date of the final decision. If by that time there is no further activity in the matter, no fact-finding processes under these procedures or other related policy or legislation involving a party to the original complaint, or no further activity in relation to the original complaint, all records of the complaint will be destroyed.

Except for staff in the University's Human Rights and Equity Office, and subject to the complainant's or respondent's access to his/her own documentation, there shall be no access to files or other materials obtained or generated during or after attempts to resolve a human rights matter, unless compelled by law.

Statistics may be derived from confidential records, but will be worded in such a way as to maintain the anonymity of persons named or otherwise involved in proceedings. For statistical purposes and in addition to those cases where both a complainant and respondent have been identified and informed of the complaint, all alleged cases of discrimination or harassment will be reported by the Human Rights and Equity Office without names or specific details. In the data gathering and reporting process, a distinction will be made among inquiries, concerns, mediated disputes and complaints.

# APPENDIX A

## GLOSSARY OF TERMS

The following definitions of selected terms are intended to assist users of human rights at the University of Guelph by providing supplementary information:

Academic Freedom means "academic freedom" as defined in the Special Plan Agreement and as amended from time to time. Within the context of this policy and these procedures, this definition of academic freedom applies *mutatis mutandis* to students.

Accommodation *see* Duty to Accommodate.

Age means an age that is 18 years or more, except in cases of employment, in which age means an age that is 18 years or more and less than 65 years.

Ancestry means a line of people from whom one is descended; family descent.

Bad Faith can be said to exist where a fact-finding team is satisfied that a complaint was made as retaliation or where a complaint or response or some part of them was advanced for dishonest reasons.

Citizenship accrues to all persons born in Canada or all persons who have become naturalized in Canada.

Colour *see* Race

Condonation is a form of discrimination and, in the main, constitutes supervisory acceptance of breaches of this policy or its procedures: for example, ignoring racist jokes or failing to respond to complaints.

Creed is defined as a professed system and confession of faith, including both beliefs and observances or worship. A belief in a god or gods or a single supreme being or deity is not a requisite.

Disability means for the reason that the person has or has had, or is believed to have or have had:

(a) any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and, without limiting the generality of the foregoing, including diabetes mellitus, epilepsy, any degree of paralysis, amputation, lack of physical co-ordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or on a wheelchair or other remedial appliance or device;

(b) a condition of mental or psychological impairment;

(c) a learning disability or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language;

(d) a mental disorder; or

(e) an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997.

Discrimination is any practice or behaviour, whether intentional or not, that negatively affects an individual or group because of race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, gender, sexual orientation, age, marital status, family status, disability or social condition. Discrimination may arise from direct differential treatment or it may result from the unequal effect of treating individuals and groups in the same way. It may also arise as the result of hate-group activity. If the effect of the behaviour on the individual is to grant them equality in name but to maintain the conditions of subordination or disadvantage that limit full and meaningful access to, for example, goods, services, facilities, employment, housing or accommodation available to other members of society, it is discrimination.

Duty to Accommodate arises in several circumstances, including the following: where a requirement, factor or qualification is imposed in good faith but has the effect, when applied, of preferring or adversely affecting a group of individuals who are all identified by the same protected ground under the Human Rights Code; where a person with a disability is otherwise unable to carry out the essential requirements of employment or the essential requirements that are necessary to access a service. But accommodation is not required if it would pose an undue hardship. For example, a student may be granted reasonable accommodation in the provision of education. This does not mean, however, that the student is not required to complete the essential requirements established by the University for completion of a program.

Employment Equity is a program designed to remove systemic barriers to equality of outcomes in employment. It involves identifying and eliminating discriminatory policies and practices, remedying the effects of past discrimination, and ensuring appropriate representation of designated groups. Employment equity programs require goals and timetables to be set to increase the representation of designated groups in the workplace.

Ethnic Origin refers to a group of people having a heritage and a common ancestry or shared historical past, as well as identifiable physical, cultural, linguistic and religious characteristics.

Family Status means the status of being in a parent-and-child relationship.

Gender is the cultural definition of behaviour defined as appropriate to the sexes in a given society at a given time.

Gender Identity is an individual's sense of his or her gender. This conviction is not contingent on the individual's biological sex.

Handicap *see* Disability

Harassment, a form of discrimination on grounds enumerated in this policy, is usually persistent, ongoing communication in any form of negative attitudes, beliefs or actions — which might reasonably be known to be unwelcome — toward an individual or group with the intention of disparagement. Sometimes a single act or expression constitutes harassment if it is a serious violation or from a person in authority. Forms of harassment include name calling, jokes, slurs, graffiti, insults, threats, discourteous treatment, written or physical abuse, and hate-group activity. Harassment may be either subtle or blunt.

Invitees are persons who enter University lands and property through either express or implied permission. Their business may be connected to University business or with activities that the University conducts or permits to be conducted on its land or property.

Marital Status means the status of being married, single, widowed, divorced, separated or living with a person of the opposite sex or the same sex in a conjugal relationship outside marriage.

Merit or Foundation must be found for a matter to proceed to fact-finding. A matter may be said to be without foundation if, notwithstanding the facts alleged can be proven, it cannot succeed on its merits. For example, a matter will not be able to succeed on its merits if the fact-finding team lacks the jurisdiction to hear it or where the distinction is not based on a ground covered by the policy. This would include circumstances where the undisputed facts clearly provide a defence.

Place of Origin covers characteristics that are strongly associated with a particular place, including a country, state, province, group of countries or city.

Race refers to a group of people of common ancestry, distinguished from others by physical characteristics such as colour of skin, shape of eyes, hair texture or facial features. The term is also used to designate the social categories into which societies divide people according to such characteristics. Race is often confused with ethnicity. Human groups usually overlap, and group names can even be seen as alternative ways of classifying people. Various types of broad-based groups (e.g., racial, ethnic, regional and religious) are rarely mutually exclusive, and degree of discrimination against any one or more varies from place to place and even over time.

Reprisal may occur when there are threats, intimidation, denial of opportunity or undue focus on the rights of individuals or groups to claim and enforce their rights under this policy.

Restorative Sessions involve a process in which all parties (for example, offenders, victims and other relevant members of the University community) in a conflict come together with a neutral facilitator and consider the offence and its impact on the whole community. Together, the participants work toward repairing the harm that has been done. This is a conflict resolution process.

Same-Sex Partnership Status means the status of living with a person of the same sex in a conjugal relationship outside marriage.

Sex is female biological distinctiveness from males and vice versa. In this policy and these procedures, complaints made on the ground of gender identity shall be considered under the ground gender.

Sexual Harassment occurs when a person receives unwelcome sexual or sexualized attention from another person whose comments or conduct are known or should reasonably be known to be offensive, inappropriate, intimidating, hostile and unwelcome. Sexual harassment includes situations where a person in a position of authority (a supervisor or teacher, for example) shows unwelcome sexual attention to an employee or student, and in which reprisal occurs or is threatened if the sexual attention is rejected. It also includes an environment where sexist jokes and materials are allowed.

Sexual Orientation is defined as feelings of attraction for the same sex, for the opposite sex or for both sexes and does not require actual sexual experience.

A Staff Human Rights Committee shall be composed of a University departmental director and two University staff members, at least one of whom shall be non-managerial. This committee shall be convoked from time to time by the University's provost and vice-president (academic). The committee shall, in accordance with the rules of fairness governing such matters, receive, review and consider the records of fact-findings involving staff respondents that have been conducted under this policy and these procedures. The Staff Human Rights Committee may interview witnesses and review records and materials from the University that are relevant to the complaint.

A Stereotype is an inaccurate generalization made with reference to a personal characteristic. Specifically, it involves the attribution of a characteristic or set of characteristics to a group, which is then imputed to the individual members of that group because of their membership in it. One takes a preconceived or fixed notion about a group of individuals identified by a personal characteristic and assumes that all individuals identified by that personal characteristic fit that preconceived idea.

Student is defined under this policy and these procedures as an individual who is enrolled as either a full-time or part-time student at the University or an individual who is on a field placement from the University or enrolled as a co-op student in any University program.

Supervisory Responsibility is defined under this policy and these procedures as a University employee who is in a position of trust, power or authority.

# APPENDIX B

## COMPLAINT FORM

Under *Human Rights at the University of Guelph*

**PRIVATE AND CONFIDENTIAL**

***Complainants may seek assistance, through the Human Rights and Equity Office, from a human rights resource person, before completing this form.***

**COMPLAINANT**

Name: _____ Status: Student ☐ Faculty ☐ Staff ☐ Other ☐

College/Dept./Worksite: _____

Job Title if Staff or Faculty: _____

Work Phone: _____ E-mail: _____

**RESPONDENT**

Name: _____ Status: Student ☐ Faculty ☐ Staff ☐ Other ☐

College/Dept./Worksite: _____

Job Title if Staff or Faculty: _____

Work Phone: _____ E-mail: _____

**DETAILS OF COMPLAINT**

Description of alleged discrimination and/or harassment: _____

Date(s) of incident or time frame and location of incident: _____

Has this complaint been reported previously? If so, to whom and what actions were taken? _____

**RESOLUTION REQUESTED:** _____

**Complainant(s) signature** _____ **Date:** _____

_____ **Date:** _____

PROFILE

# GRIDIRON GIANT DRAWS ON HIS TALENTS

*Student-athlete is equally at home in an art studio or on the field tackling a quarterback*

BY ALEXANDER WOOLEY

PHOTO BY DEAN PALMER/THE SCENARIO

EMERGING FROM ZAVITZ HALL on a sunny afternoon, fifth-year BA student Jeremy Oxley attracts attention. It could be his easy manner that has friends and acquaintances arresting his progress across Branion Plaza to chat. It could be his size, which at 6'4" and 385 pounds means the All-Canadian defensive lineman for the football Gryphons towers over most people. "I'm hard to miss," he chuckles. "Jeremy's one of the few students I've ever had on whose chest I can comfortably rest my head," says one of Oxley's professors, Chandler Kirwin, himself 6'4".

Or it could be because Oxley — not surprisingly, "Ox" to friends and teammates — is coming out of Zavitz Hall, home of the School of Fine Art and Music.

The artist and the nose tackle?

Someone who doesn't think it "oxymoronic," that one person could make a career of stopping the draw play while at the same time love to draw, is U of G head football coach Dan McNally. "Why would it be?" he says. "We've had several fine art majors on the team over the years. Artistic ability and sensibility are very common among athletes. Jeremy is just a very talented individual."

Oxley specializes in studio art, specifically drawing. Along the way to earning the degree he'll be awarded this spring, he's also taken sculpture, silkscreen making, lithography and printmaking courses.

"But I'm fascinated by the hand, the human figure," he says. "It's why I love the realistic drawings of da Vinci and Michelangelo. For example, it's just amazing to me how da Vinci can bring out exactly how the human cheekbone protrudes from the face."

Kirwin, a dedicated sports fan himself, says Oxley is and should be a role model precisely because of his diverse interests. "Jeremy is an excellent example of someone who has handled well the delicate balancing act between academics and athletics, akin to the Ivy League tradition where the student-athlete is seen as an ideal model. I think this is a model that should be emulated, where possible."

One is tempted to theorize that Oxley's size was an intentional piece of creation, his statistical vitals plain necessity to accommodate apparently disparate passions — the pursuit of truth through art and the pursuit of fleeing quarterbacks — in a personality that takes each with a balanced, laid-back sense of fun.

"Jeremy is simply a very strong presence, a very self-assured, charismatic leader, always upbeat, energetic and positive," says McNally.

The word "presence" comes up frequently in descriptions of Oxley. "He definitely has been a big presence in our program," agrees Kirwin. "Jeremy has performed admirably in both art history and in studio. One of the things that impresses me is that he truly is committed to the arts, that he has a passion for it, and in addition to that, he is very much aware of his love of learning."

When drawing, Oxley emulates two of his heroes, da Vinci and Michelangelo, in a style rooted in realism. His chief tools are graphite and charcoal — the reason he chose to work in this medium is itself based on something quite real: Oxley is partly colour-blind. As a result, he's had to steer clear of painting. "If I try to paint a human figure, I just end up with a pink person," he says, referring to the problems he has distinguishing browns and greens and their offshoots.

To overcome this challenge, Oxley labels his green and brown pencils, so he knows what he's mixing. "It doesn't affect my silkscreen work because it uses true colours instead of mixed ones."

True colours if Oxley had to choose two favourites, they would likely be Gryphon red and gold. He considers it a blessing that his five years of playing at Guelph means that he's ineligible to play football for another university, according to OUAA rules. Not that he's tempted to don the jersey of a Guelph rival.

"I couldn't do it, even if I was eligible," he says. "Say I went to Western for teachers' college, for example. It would be impossible for me to put on that uniform" — he holds up his hands in mock horror. "I couldn't, not after I've played here for Guelph with this team. Heck, after I'd been here three days, I couldn't have played for another school."

Oxley grew up in Brownsville, just outside Tillsonburg. Mention Tillsonburg and people respond "tobacco country." "That it is," says Oxley. "It rules the life of towns in that area. They actually delay the school term for two weeks in September to get the tobacco harvest in."

He spent seven summers on the harvest, which he says helped build not only his strength but also his bank account to attend university.

In high school, Oxley excelled at art. "But I also loved football." Choosing university over community college or art school meant he didn't have to choose between his two favourite pursuits, that he could both punt and paint, if he chose. "I got the best of both worlds."

Oxley says U of G's fine art program has allowed him to build an impressive portfolio that he could use to get a job in commercial drawing or animation. It was also at Guelph that he developed a love of art history, particularly the Renaissance and the baroque (his campus e-mail account carries the nickname "Verrochio," a Renaissance landscape artist he favours at the moment).

Putting down the pastels and putting on the pads, Oxley is something of a legend in Gryphon football. The formal recognition alone makes for an impressive list. Named All-Canadian the last two years, he is the first Gryphon football player to win first-team national honours in two consecutive years. Four-time OUAA All-Star. Two-time Lineman of the Year. Team MVP and team captain this past season. Wildman Trophy winner this year (awarded since 1932 to the senior football player who demonstrates to the highest degree the traits of sportsmanship, leadership and scholarship). W.F. Mitchell Sportsman Award winner last year (the winner must possess exceptional citizenship qualities in addition to being an outstanding athlete). Team Rookie of the Year in his first year.

Oxley also started every game over his five-year career. In fact, McNally reckons Oxley has missed less than 15 minutes of playing time over his entire career as a Gryphon — an accomplishment the coach calls "extraordinary."

For the Gryphons, however, Oxley has been much more than a fixture on defence for half a decade. "Jeremy has been a wonderful ambassador for Gryphon football and for Gryphon athletics," says McNally. "He is probably the most well-known, most recognized University athlete in Guelph. He carries himself with a lot of pride in being a Gryphon. He is a classy individual and he projects the kind of image that we would like all our athletes to project."

Ex-NFL coaching great and football commentator John Madden once theorized that offensive linemen are the gentle giants who've always been big, even as children, and who as a result tend to be more aware of their size and gentler, whereas defensive players grow up smaller, develop later and tend to be more aggressive — read "mean" — by nature.

Oxley, super-sized from youth, agrees with this and says it was one reason he expected to be put on the offensive line when he came to Guelph. At the time, however, the team's biggest need was on the defensive side of the ball, says McNally, who believes the decision to put Oxley on defence turned out to be a good one because he's made a bigger impact there than he would have playing offence.

Oxley says he carried his good manners with him to defence. "I'm a gentleman on the field. If I hit the quarterback, I'll usually pick him up afterwards. Over the course of five years, I've gotten to know a lot of my opponents across the line, and we greet each other by first name." He pauses to consider. "No, I will only 'get evil' (here he invokes air quotes) if someone does something to me first."

Oxley says the Gryphon defensive linemen are a close group who carry the reputation of being a lighthearted band of brothers. "We're loud, I suppose, happy. Our motors are usually running a little faster than other people's. We kill ourselves in practice, but we're still joking around in the locker room afterwards while some of the others have collapsed from exhaustion."

What's in the future? While he considers attending teachers' college, Oxley still flirts with the idea of playing professional football, possibly with the NFL Europe, and has an agent looking at his playing options. Oxley says CFL scouts have bypassed him because, at his size, he's considered too big to be playing on the defensive line in Canada.

"It's disappointing that because of budget reasons or whatever, the scouts won't even look at a lot of players in the CIAU," he says. "When they hear my measurements, they think I won't be able to move well, that I don't fit the mould. Whereas the truth is, I move well for my size."

His coach agrees. "The most remarkable thing about Jeremy is his athleticism," says McNally. "Most truly big men do not have the co-ordination or quickness that Jeremy possesses. He is also physically very strong. His best chance will be as an offensive lineman in the CFL, though he has an outside chance at playing as a defensive lineman in the NFL."

# LETTERS

## PLAZA OUT OF CONTEXT IN CAMPUS CORE

I wish to respond to a letter from architect Paul Hammond about the Thornbrough addition and adjacent plaza. He may have a point when he says the building has been praised by other professionals and that the plaza is a public space for gatherings and has to meet existing elevations abutting the site. But there are three problems with his points.

1) The building sits within a context of many other buildings.

The designers seemingly ignored the architectural context, thus creating yet one more architectural style in our campus core. Stand between Raithby House and the University Centre and pan 360 degrees, and you'll count seven different facade materials and numerous styles. The Richards to Thornbrough complex is now four connected modules, each with a unique architectural style.

Most environmental designers would suggest that the integrity of a site is enhanced by a greater focus on unity rather than diversity. There should absolutely be some complexity and diversity, but consider for a moment planned additions to a family residence. How many of us would consider three additions to an original structure using four different architectural styles, facade materials and fenestration patterns? Most of us would find this a mishmash and would prefer more unity or harmony. The same holds true for this site.

Fellow architects may find the building and plaza appealing when seen away from its surroundings, but when viewed as a cornerstone of our core, it is obviously out of context. This contributes to the degradation of what little original design integrity is left on this campus.

2) The plaza is not a campus open space; it appears to be a forecourt to the building.

Two planters situated near the centre of the plaza divide the space into several zones. These planters will interfere with events the campus enjoys during the warmer months.

3) The plaza is not flat, and the slopes exceed recommended gradients.

After the plaza was completed, I took my graduate landscape engineering class to examine the grading and drainage issues. Using a digital level, we found that some slopes approached five per cent. Under the building code, a ramp may be only eight per cent. The desirable slope for a plaza is two per cent or less. The existing slopes are simply too steep to afford a pleasant usable space.

What would have been better? In cases such as this, we could use "grade change" devices (walls, steps, ramps) to make the plaza portion accessible, usable and maintainable. When asked several years ago to prepare a design for this space (it was to be a temporary plaza), I suggested one solution that wrapped the existing stairs around the north end of the site and made the site accessible from the northeast and southwest with "at grade" entrances. A ramp in the stairs with handrails wide enough to accept snow-clearing equipment would have respected barrier-free access from Branion Plaza while making the necessary grade change.

Entry into the plaza would have yielded a programmable open public space with a scaled-down refuge under a tree-lined edge. The vegetation would have reduced the impact of the variety of building types around the edge, creating a true, relatively flat plaza.

So what now? The plaza is quite obviously at the core of our campus and deserves special attention. To be perfectly blunt, it should be removed and redesigned to reflect the true needs and wishes of the University community. This site is not just the forecourt for this building; it is a core esthetic and functional space. As it is now, it simply doesn't work. We deserve better.

Is it a question of a tight budget? Not really. The reinforced concrete slab is quite expensive, and those precious dollars could have been better spent on a more appropriate design.

How did we get into this situation? Working within myriad constraints is common for environmental design professionals. We should be instructing and evaluating the work of our consultants in the same way we evaluate changes in academic curriculum: does the proposal suggest there is integrity in the product, and how does that proposal fit into the larger context? The University community deserves this attention to esthetic maturity.

Prof. Ron Stoltz
School of Landscape Architecture

## A JOB WELL DONE

Staff and students in the Centre for Students With Disabilities (CSD) would like to thank John Reinhart and the snow removal crew in Grounds for a job well done this winter. CSD staff member Barry Wheeler reports that although he often had trouble getting *to* the University this winter, once he got to campus, he found the sidewalks cleared.

We'd also like to thank Paul Cook and the staff in Transportation Service for all their help repairing scooters and wheelchairs this year. Without them, flat tires and other damages would not have been repaired on the spot. Thanks for providing such great service.

Staff and Students
Centre for Students
With Disabilities

## SALARY LIST SHOWS WHERE PRIORITIES LIE

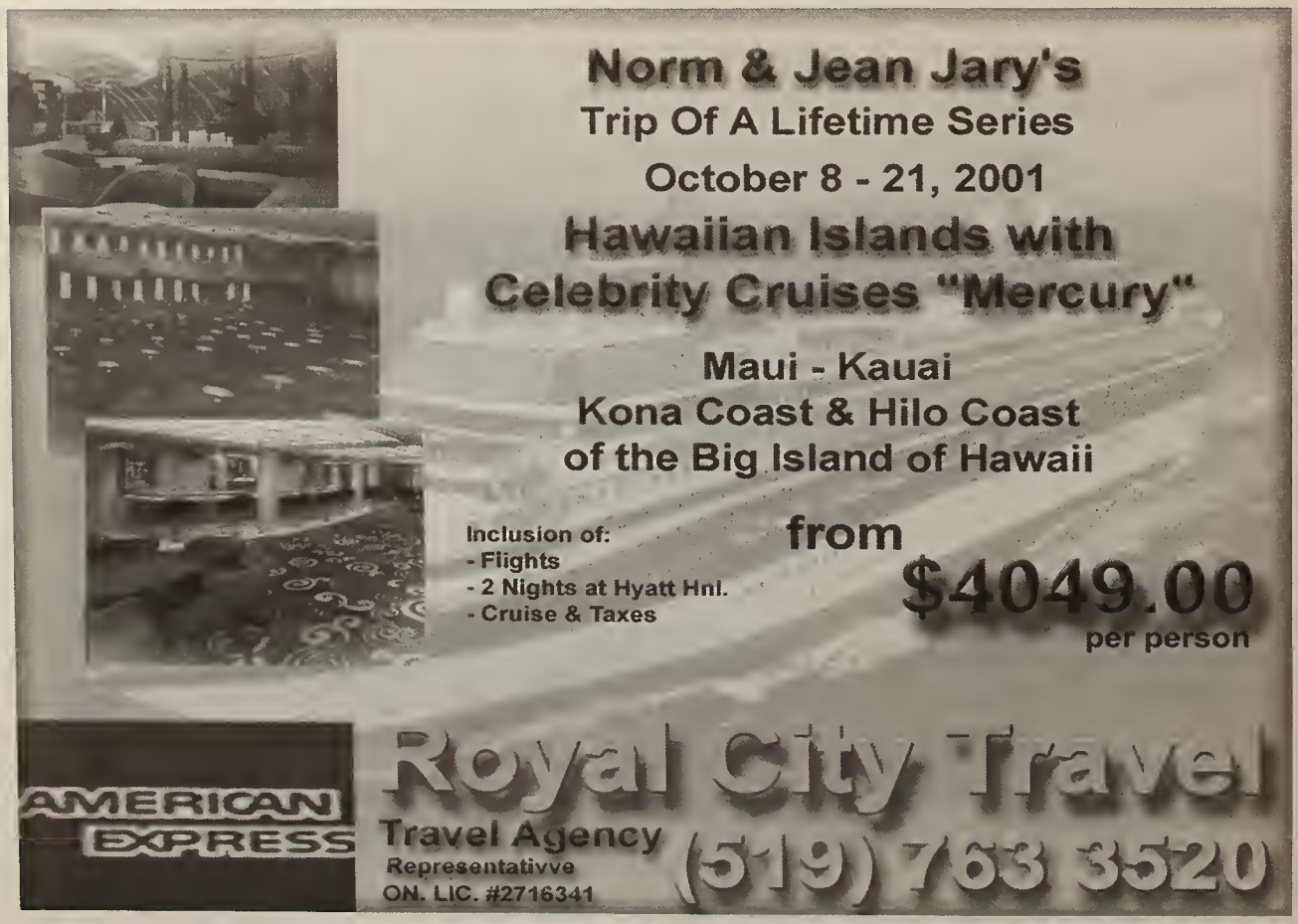
Does underpaid mean undervalued? Certainly the list of members of the $100,000 club in the April 2 *Kitchener-Waterloo Record* makes for a depressing feeling among at least some full professors at the University of Guelph and certainly spells out where Guelph's priorities lie.

U of G has about 70 in the club, of which about 22 are in administration (deans and up). On the other hand, the University of Waterloo has about 200 in the club, of which about 13 were identified as being in administration.

The news is not all bad, though. Guelph has almost caught up to Wilfrid Laurier University, which has 75 members in the club, of which 14 are identified as administrators.

Of course, Guelph's administration has recently realized the gravity and unfairness of the situation, so it promises to speedily rectify it, taking only three years to bring full professors' salaries up to the provincial average. But there will be no retroactive reparations for underpaid labour. After all, for the administration to do that, it would have to acknowledge that it knew all along it was underpaying full professors.

Prof. John Simpson
Prof. Gabriel Karl
Department of Physics

## PAYING TRIBUTE

**A memorial service was held April 3 in War Memorial Hall to honour those who have donated their body to science. The 20 donors whose bodies were studied in U of G's human anatomy course were named and honoured with the lighting of candles and the placing of a red tulip for each person. The service was co-ordinated by campus minister Lucy Reid and Francine Pilon, an instructor in the Department of Human Biology and Nutritional Sciences.** PHOTO BY MARTIN SCHWALBE

# Rural Communities Face Daunting Challenges: Report

*Three-year project explores rural economic development in Ontario*

ONTARIO'S RURAL communities lack the wherewithal to maintain or improve their declining economic circumstances, and the problem is likely to become more widespread and intense, according to a new U of G report.

"In many communities, the interrelatedness of economy, community survival and quality of rural life is the pivotal issue," says Prof. David Douglas, School of Rural Planning and Development, director of the research project. "What we discovered is a dangerous picture requiring our immediate attention."

In a survey of all 495 of Ontario's rural municipalities (128 or 26 per cent responded), the researchers found that without provincial help, rural communities are flagging and at risk.

"As the provincial government has greatly reduced its support for rural municipalities, they have had to become increasingly dependent on their own resources to survive," says Douglas. "The local economy is the single most important resource and plays an increasing role in the viability of these municipalities. If, in turn, they lack the wherewithal to carry out economic development, as we found, then it is inevitable that they suffer, as does the quality of life of their residents."

The two-volume report, "An Integrated Analysis of Changing Municipal and Community Roles and Practices," was released in February, part of a three-year research project called "Toward More Effective Rural Economic Development in Ontario," and comes just before the expected release of a provincial report on rural economic renewal.

In the Guelph report, the researchers note that Ontario's recent economic prosperity has not filtered down to rural communities. More than two-thirds of communities responding complained of economic stagnation and population decline in the period 1996 to 1999.

The researchers also found that few municipalities are actively involved in community-based economic development, only 38 per cent have an economic development plan, only five per cent have an economic development officer, and roughly half don't even have one part-time staff person in place overseeing economic development.

"Local economic development in rural Ontario is under-resourced in terms of financial and organizational resources and in terms of local know-how and skills," says Douglas. "The municipal organizations and the communities they represent simply lack the capacity to carry out local economic development. We had a sense of that before; this new research confirms it."

Douglas does point out that in some cases, there are other important players in development. "These include the counties and "Community Futures" development corporations. But overall, it is the municipalities that constitute the front line for rural communities," he says.

His research team included rural studies PhD student Sandra Chadwick and four master's students. The three-year project is supported by the School of Rural Planning and Development, the enhanced partnership between U of G and the Ontario Ministry of Agriculture, Food and Rural Affairs, the Association of Municipalities of Ontario, the Economic Developers Council of Ontario and FedNor, a regional development fund of Industry Canada.

Enhanced partnership funding comes in part from the "Sustainable Rural Communities" program. Douglas says that not only do rural communities need sustaining, but so, too, do the researchers looking to learn more about the critical issues facing those communities. "At times, we have scrambled for funding to keep this project going," he says.

Douglas and his team aren't finished yet. Next steps in the project, which began in September 1999 and carries through 2002, include 79 in-depth interviews with rural municipalities (now complete), six regional workshops on rural economic development, developing "best practices" case studies of three successful municipalities, interviews with selected counties and other players, and disseminating the current findings with research partners and municipalities across the province.

*BY ALEXANDER WOOLEY*

# ESL Enrolment Soars

*Course provides stepping stone to university for students from around the world*

MORE THAN 25 new international students come through Tony Juliani's office each month, but he never forgets a face. It's his job to remember who the students are, where they're from and why they're in Guelph, and it's a responsibility he thoroughly enjoys.

Juliani is the director of the English as a second language (ESL) program offered through the Office of Open Learning, and under his guidance, enrolment has more than doubled in a little over a year.

"We're getting about 25 new students each month, and the way things are going, we expect to double our enrolment again in 2001," he says. "We've had students from China, Saudi Arabia, Europe and South America, and we even had a group of medical doctors from Rome who came here because they needed a crash course in English."

The program is a university-level preparation course for international students who want to become U of G students or improve their scores on the Test of English as a Foreign Language (TOEFL), which they must pass to be admitted to a Canadian university. It's also designed for corporate training professionals who want to improve their English-speaking skills.

U of G originally developed the program in collaboration with the Guelph company Global Awareness Throughout English Enterprises. A little over a year ago, the Office of Open Learning resumed full responsibility for the program. Courses are now taught on campus with University-employed ESL teachers.

Juliani adds that the program allows U of G to expand its international offerings, facilitates admission qualifications for foreign students and contributes to the "internationalization" of the University.

As new students enrol each month, their English skills are evaluated to determine the appropriate placement level in the program. In addition, students are evaluated monthly via the institutional TOEFL to monitor their progress. Many students enrol in several sessions, and courses run year-round.

"We try to keep the classes small — 10 to 15 students," says Juliani. They spend about six hours a day, five days a week, studying English — reading, writing, listening, speaking and grammar. Courses emphasize conversation, presentation skills and integration into Canadian society.

The students also enjoy the same privileges as other U of G students, including library access, e-mail accounts and Internet access, computer use and academic counselling. In addition, there are optional excursions to places like Toronto and Niagara Falls, as well as cultural, sports and tour events. During the summer, when more residence space is available, students enrolled in the program can live on campus; otherwise, they live off campus.

Students who complete the program, pass the institutional TOEFL exam with an acceptable score and pass a minimum of four open learning courses with a 70-per-cent average are guaranteed admission into the University's BA program.

"Most of our students don't just come here to learn English," says Juliani. "They come here because they're interested in the programs Guelph has to offer."

Ameen Abdelkariem is one such student. The Sudan native chose Guelph's program because he was interested in studying agriculture and learning about animals. When he arrived at U of G six months ago, his TOEFL score was 460, far below the required 570.

"Last month, I was tested and received a score of 557, so I've improved by more than 100 points, which is really good for me," he says.

Abdelkariem plans to continue in the ESL program until he earns the required test score, then become a full-fledged U of G student in September.

Juliani says many students follow a similar path. "About 90 per cent of the people in the program go on to become regular U of G students. Many of the students also bring prestigious scholarships from foreign governments that serve to enrich the entire international community."

*BY LORI BONA HUNT*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# Members Sought for Committees

The University of Guelph community is invited to recommend members for the selection committees for the following positions: associate vice-president (research) and associate vice-president (agri-food and partnerships).

Membership on each committee is to include one dean, three tenured faculty members from different colleges, one student and one regular full-time staff member, all of whom will be elected by Senate. Members of the selection committees need not be senators. The committees will be chaired by Prof. Alan Wildeman, incoming vice-president (research).

The Senate Bylaws and Membership Committee will present membership slates for approval at the May 8 meeting of Senate.

The deadline for submission of recommendations is April 18. Forms are available from the Senate Office on Level 4 of the University Centre.

# New Research VP to Begin July 1

*Continued from page 1*

Similarly, other organizational needs are being discussed with directors and managers in the Office of Research."

In total, the search committee considered some 50 candidates from inside and outside the University, representing a wide range of disciplines and organizations, says Rozanski. Ten of these candidates were interviewed and, over time, four were presented publicly to the U of G community.

"I wish to offer public thanks to those who have contributed to the successful conclusion of this extensive search process," he adds. "Thanks, as well, to the superb individuals who honoured us by allowing their names to stand publicly as candidates for the position. It remains a point of great pride that the search committee was able to present to the Guelph community excellent finalists for the position."

*BY SUZANNE SOTO*

## Clarification

In the March 28 issue of *@Guelph*, the news item "CCFF Honours Lam" should have stated that Prof. Joseph Lam, Microbiology, was awarded a renewable three-year scholarship from the Canadian Cystic Fibrosis Foundation valued at $60,000 *a year*, for a total of $180,000.

# Pushing Kids to Excel Often Backfires, Study Finds

*Parental pressure associated with lower self-esteem, less competence in school skills*

PARENTS who push their children to excel in school and extracurricular activities may be harming their kids' ego and academic performance, according to a study by Prof. Gerald Adams, Family Relations and Applied Nutrition.

"Our findings show that parental pressure is associated with lower self-esteem, a lower sense of assertiveness and less competence in school skills," says Adams. By comparison, children who are under less parental pressure tend to do better in school, get along with their peers, follow rules and handle frustration.

"Parents usually have good intentions," he says. "They might think they're helping their child by using pressure when the child is showing problems in school, but it often backfires. If parents have high expectations of their child doing well, the child will have those same expectations. She or he will start to think that no matter how well they do, mom and dad expect more."

Adams, who has written a series of books that examine the effect parenting styles have on childhood and adolescent behaviour, originally set out to discover what factors determine how well children follow rules in school and get along with classmates. But during his study of more than 300 children in grades 4 and 7, he found that parent-child interactions are the greatest predictor of rule compliance and sociability. So he expanded the research to also examine the effect of parental pressure on children's school and social lives.

"We've learned there are a lot of characteristics that can predict how well a child will do in school, regardless of the teachers they have," he says.

Other findings include:

- The negative effects of parental pressure only increase as a child gets older.
- Children under the most parental pressure tend to come from households where control is a central focus. Children who are supported rather than pressured by their parents tend to live in homes where cohesiveness is paramount.
- Parental pressure often determines how well children get along with others. Pressure lowers a child's ego strength, and children with higher egos tend to extend themselves and have a better ability to handle the frustrations associated with frequent interactions with others. Self-esteem is also often an indicator of how well a child does in school.
- Many parents and school boards are urging greater family involvement in children's school activities. Schools should be ready to provide guidance and parental training on the results of negative pressure, and offer guidance on how to best help children regarding school activities.

"Our research shows that parental support has positive influences on a child's school activities, although there is a very fine line between parental support and parental pressure," says Adams. "But children are capable of deciphering between the two, and they are most influenced by positive things."

*BY LORI BONA HUNT*

## @GUELPH PUBLICATION SCHEDULE

| Publication Date | Deadline |
|---|---|
| April 25 | April 16 |
| May 9 | April 30 |
| May 23 | May 14 |
| June 6 | May 28 |
| June 20 | June 11 |


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## FOR SALE

Dehumidifier, three months old; large carpet, clean, in good condition, 836-7986 or send e-mail to iskim673@hotmail.com.

Large granny rocker; new bread maker; two-drawer filing cabinets; floor lamp; brown wool rug, eight by 10 feet; Eddie Bauer long coat and ski jacket, women's medium; folding travel bag suitcase; large gold-coloured antique milk can; king waterbed with bookcase, 856-0874 or send e-mail to tdean@fin.uoguelph.ca.

Mastercraft air conditioner, 9,000 BTU, great condition, Kyle, 824-1280 or kmackie@open.uoguelph.ca.

Cross-country skis, mountain bike, send e-mail to eramon@uoguelph.ca or estelleramon@hotmail.com.

Reel-to-reel recording tape, large quantity from recording studio, reasonably priced, Ext. 3504 or send e-mail to hdavis@uoguelph.ca.

Inglis dryer in good working condition; boy's skates, CCM Tacks 685, Pro Lite blades, size one, used for one season, excellent condition, 836-0125.

Female German shepherd puppy, six months old, gentle and well-trained, spayed and vaccinated, large cage included, 836-7986 after 6 p.m. or eyjeong673@yahoo.co.kr.

Two-bedroom house/cottage in Haliburton, more than an acre of property, 1½ baths, woodstove, propane stove and water heater, close to Eagle Lake, Laura, Ext. 2264.

## FOR RENT

One bedroom in shared house, two blocks from campus, suit a mature female student, available May 1, 836-9236.

Two-bedroom cottage just north of Sauble Beach, dishwasher, propane barbecue, TV/VCR, suitable for four people, non-smokers, no pets, $500 a week, 763-1236 or bardwell@ovc.uoguelph.ca.

Two-bedroom cottage on Georgian Bay Island, overlooks Killbear Provincial Park, sleeping loft, Ken, 822-2125 days or 822-7705 evenings.

Three-bedroom century home on quiet street near downtown, newly renovated kitchen, laundry, porch sunroom, non-smokers, $1,500 a month inclusive, 836-9918.

Large basement bed-sitting room in shared house behind Hartsland Zehrs, private bath, bus stop at door, parking, laundry, available for May, $400 a month, Jen, leave message at 766-6046.

Summer sublet in four-bedroom townhouse, close to bus, groceries, $300 a month inclusive, Lisa, 829-2708.

Three-bedroom house, 1½ baths, 20-minute walk to campus, bus stop at door, washer/dryer, suitable for family or three students to share, available May 1, $1,200 a month inclusive, 836-8961 or send e-mail to trosenda@uoguelph.ca.

## WANTED

Research team seeks feedback from faculty and students on Ontario's student loan system. You are invited to share in writing your impressions of how participation in institutionalized borrowing has affected post-secondary education. Respond by e-mail to midtownprod@hotmail.com.

Reasonably priced one- or two-bedroom apartment for student with two cats, James, 836-8510.

Rental accommodation for quiet non-smoker with no pets in urban or rural area, shared or private, 763-6120 or send e-mail to gbowles@golden.net.

Summer student with experience in molecular genetics needed to work in corn genomics lab in Guelph this summer, Ext. 3396 or raizada@uoguelph.ca.

Housekeeper, one day a week, Ext. 3438 or 763-7430.

One- or two-bedroom apartment for professional couple in quiet area, close to downtown and campus, 822-9092 Monday to Thursday after 5:30 p.m.

Two quiet, non-smoking mature students need accommodation for September to December 2001, looking for either one two-bedroom apartment or two one-bedroom apartments, 763-2235 or jgiacint@uoguelph.ca.

One-bedroom apartment for mature female student for Sept. 1, preferably furnished, non-smoker, references, leave message at 836-8681 or send e-mail to kentishm@nt.net.

Roommate for May 1, close to downtown, 20-minute walk to campus, close to laundry, groceries and bus, no lease, $288 a month plus utilities, 822-5735 or send e-mail to rstranbe@uoguelph.ca.

Furnished or unfurnished four-bedroom house for two young couples for May 1, close to campus, laundry, parking for one car, will pay up to $1,600 a month inclusive, Tanya, leave message at Ext. 76545 or send e-mail to tjones01@uoguelph.ca.

## AVAILABLE

Housesitter available July 1, short term and long term, references, Guelph graduate, single with own business, Carolyn, 836-6435.


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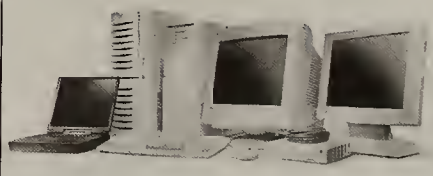

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# EVENTS

## ARBORETUM

The Arboretum Auxiliary's series of seasonal Sunday afternoon walks continues April 15 with "Early Spring Discovery Tour." The walk leaves from the Nature Centre at 2 p.m. and is free, with a suggested donation of $3 per person. For more information, call Ext. 2113.

Naturalist Chris Earley presents a workshop on less common warblers May 3 from 9 a.m. to 4 p.m. Cost is $45. Registration and payment are required by April 18. Call Ext. 4110.

Instructor/writer Mary Ann Moore presents three weekly workshops on journalling in the garden May 8, 15 and 22 from 10 a.m. to noon. Cost is $30. Registration and payment are required by April 24.

Theatre in the Trees presents the dinner-theatre comedy *Something for Charlie* by Neville Bryant Saturdays until April 28. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are $49 and are available at Ext. 4110.

## ART CENTRE

The Macdonald Stewart Art Centre hosts a brown bag lunch talk April 17 at noon, with Nick Hill discussing "Lighthouses."

A reception for the exhibition "Jan I.M. Noestheden: Congratulations on a Job Well Done" will be held April 26 at 4 p.m. at the art centre.

## NOTICES

The McLaughlin Library will be closed April 28 to May 6 to allow the removal of transformers from the building.

The Association of Universities and Colleges of Canada administers the program Sabbatical Grants in Africa for Canadian Researchers on behalf of the International Development Research Centre. Grants are available for Canadian researchers visiting Africa to cover expenses related to travel, research and communication. Submission deadline is May 15. Guidelines are available on the Web at www.aucc.ca/en/programs/african.html or at the Centre for International Programs in Day Hall 205.

Human Resources Development Canada's Social Development Partnership Program is calling for proposals for research and development projects related to services and policies that promote/support early childhood learning and care. Submission deadlines are April 27 to the Office of Research and May 4 to HRDC. Information is available outside Room 224 of the Office of Research.

A graduate student working under the supervision of Prof. Kelly Meckling-Gill, Human Biology and Nutritional Sciences, is looking for overweight subjects for a study comparing the effects of a low-fat diet versus a low-carbohydrate diet on weight loss and other health parameters. For more information, call 836-2131 or send e-mail to caitrion@uoguelph.ca.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) invites proposals for funding through its Food-Safety Research Program, a new initiative that funds research to support the implementation of an enhanced science-based food-safety system in Ontario. The next deadline for proposals is May 29 to the Office of Research and May 31 to OMAFRA. For more information, visit the Web site www.gov.on.ca/OMAFRA/english/research/food/foodsafe.htm.

The Canada-European Community Program for Co-operation in Higher Education and Training supports the development of international joint projects among Canadian and European universities, colleges and technical institutions. A new competition has been announced with federal support of $200,000 per project over three years for the Canadian partner institutions. Applications are due May 23. Guidelines are available on the Web at http://www.canlearn.ca/iam/can_euro/eng_callforproposal.shtml.

## SEMINAR

The Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry will hold its annual seminar April 27 at 3 p.m. in Thornbrough 100. Waterloo chemistry professor Gary Dmitrienko will discuss "Three Little Atoms, All in a Row: The Mysterious Affair of the Kinamycin Antibiotics." The seminar will be preceded by the centre's annual meeting and followed by a poster session and awards presentations.

## TEACHING SUPPORT

Teaching Support Services's winter series of training and development opportunities for faculty and teaching staff concludes April 19 with "HTML V: Developers Q & A." Register online on the Web at www.tss.uoguelph.ca.

## THESIS DEFENCES

The final examination of PhD candidate David Gadish, Engineering, is April 11 at 8:30 a.m. in Thornbrough 1360. The thesis is "Inconsistency Detection and Adjustment of Spatial Data Using Rule Discovery." The advisers are Profs. Otman Basir and David Chiu.

The final examination of M.Sc. candidate Jennifer Bowman, Family Relations and Applied Nutrition, is April 11 at 9:30 a.m. in HAFA 331. The thesis is "Validation of the Minimum Data Set 2.0 Section K in Long-Term-Care Residents." The adviser is Prof. Heather Keller.

The final examination of M.Sc. candidate Bjarni Kristjánsson, Zoology, is April 11 at 2 p.m. in Axelrod 265A. The thesis is "Divergence of Icelandic Threespine Stickleback to Two Bottom Types in Lakes and Recently Formed Lagoon." The advisers are Prof. David Noakes and Skuli Skúlason.

The final examination of M.Sc. candidate Sue Wickenden, Environmental Biology, is April 12 at 9 a.m. in Graham Hall 3301. The thesis is "The Isolation and Purification of Putative Allelochemicals From *Chrysanthemum morifolium* Tissue." The advisers are Profs. Chris Hall and Bernard Grodzinski.

The final examination of Isabelle Schmelzer, a PhD candidate in the Department of Zoology, is April 16 at 2 p.m. in Axelrod 265A. The thesis is "A Dynamic Seascape and a Disappearing Seal: A Biogeographical Analysis of the Population Ecology of the Hawaiian Monk Seal." The advisers are Profs. David Lavigne and Tom Nudds.

The final examination of M.Sc. candidate Johan Bröjer, Clinical Studies, is April 17 at 1:30 p.m. in OVC 1713. The thesis is "Proglycogen and Macroglycogen in Equine Skeleton Muscle." The adviser is Prof. Henry Staempfli.

The final examination of PhD candidate Vern Osborne, Animal and Poultry Science, is April 18 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Water Nutrition in the Dairy Cow." The adviser is Prof. Brian McBride.

The final examination of PhD candidate Jeffrey Kemp, Engineering, is April 23 at 10 a.m. In Thornbrough 1307. The thesis is "Measurement of Gaseous Mercury Emissions From Natural Sources." The adviser is Prof. Grant Edward.

The final examination of Richard Perkins, an MFA candidate in the School of Fine Art and Music, is April 23 at 2 p.m. in Zavitz 207. The work is titled "Representing the Absurd: Models for Real and Imagined Fears." The adviser is Prof. Margaret Priest.

## COMMUNITY EVENTS

Guelph Museums celebrates the city's birthday April 22 with activities in the children's museum from 1 to 4 p.m. For information, call 836-1221.

The Canadian Poetry Association, in collaboration with the Guelph Arts Council, invites poets and artists/photographers in Wellington County to submit entries for the *Wellington County Anthology*, scheduled for publication in September. Submission deadline is May 1. For details, call 836-3280 or send e-mail to gac@sentex.net.

The City of Guelph Millennium Committee dedicates its millennium time capsule April 23 at 5 p.m. at John Galt Park.

The Guelph Male Choir performs a benefit concert for UNICEF April 25 at 4 p.m. at Westminster-St. Paul's Church. The choir can also be heard in concert April 22 at 4 p.m. at Westwood Church.

Hospice Wellington holds its annual charity dinner and dance April 27 at 6:30 p.m. at Creelman Hall. For ticket information, call 836-3921.

Award-winning author Jane Urquhart, a 1971 BA graduate and honorary degree recipient of U of G, and writer Sheila Munro will read together at the Bookshelf Cinema April 25 at 7 p.m. Urquhart will read from her latest novel, *The Stone Carvers*; Munro will read from *Lives of Mothers and Daughters*, which traces her relationship with her mother, novelist Alice Munro. Tickets are $5, with all proceeds going to Action Read.

The Guelph Collegiate Vocational Institute alumni association is hosting a wine-and-cheese reception April 28 at 7:30 p.m. at St. Mary's Parish Hall to kick off preparations for the school's 150th reunion in 2004. For tickets, call GCVI at 824-9800, Ext. 491.

The Waterloo-Wellington Wildflower Society will meet April 18 at 7:30 p.m. at the Arboretum Centre. Carole Ann Lacroix of the Department of Botany will discuss "Purple Loosestrife: Friend or Foe?" Everyone is welcome.

Dublin Street Church hosts its annual fine art show and sale April 21 from 10 a.m. to 4 p.m.

# Synchronized Swimmers Pool Their Talents at U of G

*Four Guelph students are part of local club's coaching team*

IT'S A SPORT that combines swimming, gymnastics and ballet. And the more than 50 girls and young women who make up the Guelph Synchronized Swimming Club use U of G's red pool every week to practise the figures and routines that develop teamwork and build strength, co-ordination and endurance.

The University's involvement and support of the program don't end with access to the pool. Four of the club's seven coaches are U of G students, including head coach Genna Le Gear, a third-year sociology student from Markham who's been involved in synchronized swimming for a decade.

Under her guidance and that of club president Lynn Hammond, the program is growing rapidly, attracting girls from ages seven to 18. In addition to the 23 girls who swim competitively, the club has recreational and pre-competitive programs that serve more than 30 girls.

"The recreational program just gets bigger and bigger," says LeGear. "Many of the girls start off in the recreational program and then move into the pre-competitive and competitive group, which is helping us build a really strong group."

Le Gear and Hammond believe the growth of the club is simply due to getting the word out through participation in events like College Royal, hosting synchronized swimming evenings for Brownie and Pathfinder clubs, and being involved in community events such as the Wizard of Hope Walk for mental illness and schizophrenia.

The team hosted its first-ever regional meet April 7 and 8 for 150 competitors from all over southwestern Ontario — one sure sign of the team's rising stature in provincial synchronized swimming.

"This event was a great opportunity for us to showcase and promote synchronized swimming in our own community," Hammond says. "It gave the club and our many volunteers a chance to train, thereby ensuring there are qualified volunteers ready and able to assist with the synchronized swimming events being held at the Winter Games coming to Guelph next year."

"These girls achieve a really excellent level of fitness," says Prof. Linda Mahood, History, whose 12-year-old daughter, Lucy Satzewich, is a member of the club. "They can all swim at least two laps of the red pool without a breath, and can swim between 60 and 70 lengths of the various strokes, including butterfly as part of their weekly training. The commitment they make to each other is remarkable. They learn to work together as a team."

*BY STACEY CURRY GUNN*

April 25, 2001

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# Talks to Focus on Learning

*Two leading experts on teaching to speak*

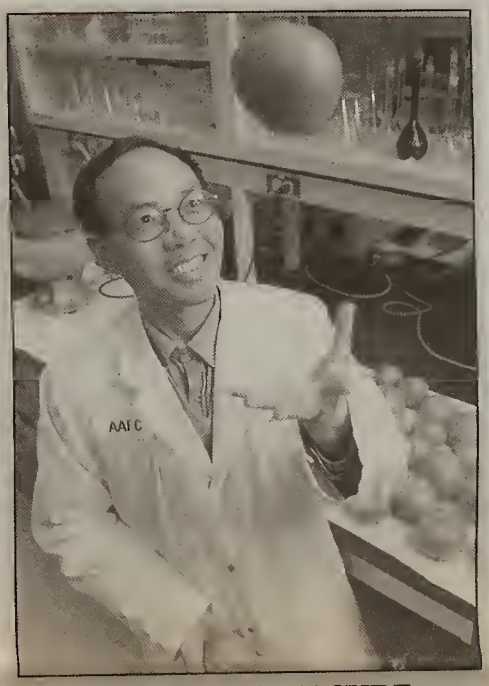
Teaching Support Services, the College of Arts and OVC host the conference "Collaborative Learning: Opportunities and Strategies at the University of Guelph" May 17 from 8 a.m. to 5 p.m. in Peter Clark Hall.

Keynote speakers are Stephen Brookfield of the University of St. Thomas in Minneapolis, who will discuss "Becoming a Critically Reflective Practitioner"; and University of Western Ontario English professor Allan Gedalof, who will present "Basic Climatology for the Classroom: Towards an Ethos of Engagement."

Since beginning his teaching career in 1970, Brookfield has worked in a variety of college settings in England, Canada, Australia and the United States. He has written and edited nine books on adult learning, teaching and critical thinking, three of which have won the World Award for Literature in Adult Education. He also won the 1986 Imogene Oaks Award for Outstanding Research in Adult Education. He currently serves on the editorial boards of educational journals in Britain, Canada, Australia and the United States.

After 10 years as a professor of higher and adult education at Columbia University, Brookfield is now a distinguished professor at St. Thomas.

*Continued on page 2*



## TOMATO TREASURE

Research scientist John Shi sees tomato skins as a possible weapon against cancer, not just a byproduct of the food-processing industry. See story on page 12. PHOTO BY MARTIN SCHWALBE

# $500,000 Gift Supports Scottish Studies at Guelph

*Funding will go towards creating an endowed chair that will sustain U of G's world reputation for excellence*

The Scottish Studies Foundation has donated $500,000 to U of G to help create a $2-million chair in Scottish studies, the first in North America. The gift was announced April 11 by foundation chair Ed Stewart at the Scottish Studies Society's annual Tartan Day Dinner in Toronto.

"Our unique relationship with Canada's oldest established Scottish studies program, located at the University of Guelph, will be further enhanced with the establishment of this endowed chair," said Stewart. The $500,000 gift "will foster academic excellence in this discipline, in keeping with the foundation's mission to raise awareness of Scottish heritage in Canada," he said.

The Scottish Studies Foundation is a charitable organization dedicated to the study of Scottish and Scottish-Canadian culture and heritage through the active support of the Scottish studies program at Guelph.

"On behalf of the University of Guelph, I offer my profound thanks for this magnificent and very gratifying $500,000 gift in support of an endowed chair in Scottish studies," said president Mordechai Rozanski. "This is a major step on the way towards the $2 million needed to realize our ambition of sustaining our position as one of the world's foremost centres for Scottish studies. Our program is without peer outside of the United Kingdom. This is due to outstanding faculty expertise in research and teaching, our unrivalled special library collection, our community and Web-based outreach and, of course, the invaluable support of the Scottish Studies Foundation."

The Scottish studies program, which dates back to the formation of the University in the mid-1960s, is internationally recognized for its research excellence.

Prof. Linda Mahood, acting chair of Scottish studies, said the foundation's gift will help secure the long-term academic future of a unique humanities program.

"Guelph currently has the only graduate program in North America devoted to the study of Scotland and the achievements of people of Scottish descent around the world," she said. "The Scottish Studies Foundation's gift represents a culmination of over 15 years of effort by people interested in Scottish history and culture. This gift will ensure that research and teaching in the field of Scottish studies flourish."

Besides establishment of the chair, the foundation's objectives include funding scholarships, conferences and a scholarly journal, and raising funds to obtain material for the rare book and manuscript collection at U of G.

In addition to the foundation gift, the Tartan Day Dinner also featured the announcement that Goldfarb Consultants CEO Kathie Macmillan has been named 2001 Scot of the Year by the Scottish Studies Society's board of directors.

*BY ALEXANDER WOOLEY*

# Study to Determine Economic Impact of Walkerton Crisis

*Guelph researchers will survey local families, businesses to assess costs*

Two U of G faculty have been commissioned by the Walkerton inquiry to do the near-impossible: put a price tag on the water crisis that claimed seven lives and made 2,300 people ill.

Profs. John Livernois, Economics, and Fred Evers, Sociology and Anthropology, have designed two surveys to determine the economic impact of the water crisis on local families and businesses. The study will be part of the inquiry's report, which is expected to be completed by the end of the year.

"The real costs of what happened in Walkerton cannot be quantified," says Livernois. "People lost their lives, and some people will be sick for the rest of their lives." But the researchers will try to assess the cost of things such as lost wages due to illness, trips to the hospital, clean-up expenses and lower property values.

It's estimated that the province has already spent between $10 million and $15 million responding to the water contamination, covering such expenses as cleaning and disinfecting facilities and equipment.

"That's just the beginning," says Livernois, who specializes in environmental and natural resource economics. "The end cost will be much, much bigger than that. We just don't know how much bigger."

Graduate students with experience in conducting interviews on sensitive subjects will carry out surveys of some 400 randomly selected homes in Walkerton for several weeks starting in May. Residents will be chosen from a roster of utility bills, and home visits will be arranged for each family.

"Given the sensitive nature of the subject, we felt face-to-face interviews were more appropriate than calling on the telephone," says Livernois. "We'll be asking families to quantify a number of things having to do with the water contamination, from hotel expenses if a family member was hospitalized far away to having to use boiled and bottled water. It may turn out that this has been costly in ways we never imagined. For example, the water was so heavily chlorinated afterwards that people are finding their clothes wear out faster and have to be replaced."

The business survey, overseen by Livernois, will focus on areas such as lost revenues, fewer customers and reduced operating hours due to illness. Students with economics backgrounds will survey some 200 local business owners. A focus group will also be held in Walkerton, with help from the Chamber of Commerce.

In addition to the two surveys, Livernois will look at what it cost to clean and disinfect the municipality's facilities and equipment, and who is going to pay for it.

All findings will be turned over to the inquiry, although individual details about those surveyed will remain confidential and will not be available for litigation purposes.

*BY LORA BONA HUNT*

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# SENATE REPORT

## *New Academic Schedule of Dates Approved*

PRESIDENT MORDECHAI ROZANSKI informed Senate at its April 10 meeting that the University had received good news. Prof. Warren Stiver, Engineering, has been named to the Natural Sciences and Engineering Research Council Chair in Environmental Engineering Design. That, however, is the extent of the news, said Rozanski, because universities still don't have any word on operating budget transfers, and none is expected until early May.

Following lengthy discussion, Senate approved a motion to accept the report of the Board of Undergraduate Studies Working Group on Academic Scheduling, which was established to review all aspects of the academic schedule of dates. The proposed system allows the establishment of the schedule based on calculating a set of offsets using Labour Day as the fixed point.

In introducing the motion, BUGS chair Prof. Steve Scadding said the new schedule reflects four goals and principles identified by the working group:

- faculty need sufficient time to grade exams;
- students must receive final grades before the start of the next semester;
- there must be sufficient time to counsel students in academic difficulty; and
- the number of teaching days must be maintained.

The proposed schedule preserves all these principles and also incorporates a number of suggestions that were identified by respondents across the University.

Scadding said the one aspect of the new schedule that caused the most discussion during its development was the recommendation to discontinue special schedule classes as of fall 2001. But most members of the University community support this move, he said, adding that the special schedule days would not be "lost." Instead, they would allow departments to offer their students better orientation programs.

Several Senate members supported the retention of special classes. They said that to keep 12 weeks clear for teaching, faculty need this time for administrative work before classes begin. But other senators noted that in many departments, student attendance at these classes is sparse, so professors still have to take time on the first class day to cover material already discussed in the special classes.

Concern was also expressed about conflicts in the academic schedule related to religious holidays for various faiths. It was noted that in one year of the new schedule, classes would begin on Rosh Hashanah. Provost Alastair Summerlee said it was this very type of conflict that had led to the schedule's review in the first place, but there was clearly still work to be done on the implementation and operation of the policy.

# NSERC Scholarships to 45

## *Guelph's success rate again tops national average*

U OF G graduate students have again beat the overall national average for successful Natural Sciences and Engineering Research Council (NSERC) grants, with 45 students winning the highly prized scholarships. Guelph submitted 68 applications for the 2001/2002 academic year, achieving a 68.2-per-cent success rate, slightly higher than the national average.

In total this year, NSERC awarded $62 million to 1,924 researchers at more than 50 Canadian universities to pursue their studies in the natural sciences and engineering fields. Valued at $17,300 to $19,100, the post-graduate scholarships are awarded on the basis of marks, research output and leadership potential.

Andrea Edginton, a PhD student in the Department of Environmental Biology, received support for her work on toxicity testing of amphibians.

"It's rewarding to be recognized for your achievements and hard work," says Edginton, who also serves as vice-president (student activities) for the Graduate Students' Association. "This is a prestigious science award in Canada. To be awarded one of the top scholarships in Canada is pretty exciting."

Three of this year's recipients — Chris Murray, Chris Schultz-Nielsen and Jason Thomas — are all members of one research group led by Prof. John Dutcher, Physics.

Other 2001 recipients are Jennifer Adams, Christine Antler, Stacy Bullock, Sharene Bungay, Ian Burgess, Amy Cook, Emily Cowan, Ryan Davey, Kerri Finlay, Michael Fleischauer, Jeremy Friedberg, Emilisa Frirdich, Emily Gonzales, Kevin Graham, Kristina Griebeling, Andrea Grin, Kristine Haggerty, Michelle Herzog, Carly Huitema, Marc Johnson, Robert Jordan, Natalia Kaniuk, Noreen Kelly, Gregory Lampard, Michael Maschio, Angel McDermid, Sara McNorton, Nicholas Odongo, Anne Paiment, Matthew Routley, Sumita Sarkar, Heather Shearer, Lindsay Snow, Ildiko Somorjai, Gregory Steinberg, Leigh Swayne, Su-Yin Tan, Rachel Vanderlaan, David Vasseur, Joel Weadge and Changchun Xie.

# Focus on Teaching

*Continued from page 1*

Gedalof joined the faculty of Western in 1982 and is one of the university's best-known and most-sought-after teachers. In 1990, he received a teaching award from the Ontario Confederation of University Faculty Associations.

Over the years, he has helped hundreds of novice and experienced instructors improve their teaching, particularly as it relates to the way they use their voices and bodies and dramatic style to enhance attention and understanding.

Gedalof has served as chair of Western's Senate Committee on Admissions and Academic Programs and participates in annual campus workshops on teaching. He also offers a graduate-level course on the theory and practice of university teaching.

For more information about the May 17 conference or to register online, visit the Web site www.tss.uoguelph.ca/tli.html.


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UNIVERSITY of GUELPH

NEWS IN BRIEF

**SHEATH APPOINTED PROVOST AT CSU**

College of Biological Science dean Bob Sheath has been nameil provost and vice-president for academic affairs at the California State University at San Marcos, effective July 15. Sheath joined U of G in 1995 as CBS dean and professor in the Department of Botany. During his term as dean, he brought about major changes in undergraduate curriculum in science, implemented a new combined arts and sciences baccalaureate and, in the last two years, played a major role in obtaining funding for the new science building complex. In addition, he has maintained an active research program and has continued to supervise graduate students and teach.

**DEAN CANDIDATE TO SPEAK**

A third candidate for the position of dean of the College of Arts has been announced. Jacqueline Murray, director of the humanities research group and professor of history at the University of Windsor, will visit campus May 8 and 9 and give a public presentation May 8 at 9 a.m. in Room 029 of the MacKinnon Building. A question period will follow. Murray's CV can be seen in College of Arts academic offices and the provost's office. The University community is invited to submit written comments by May 18 to provost Alastair Summerlee.

**CHAIR NOMINATIONS SOUGHT**

A search committee has been struck to identify a new chair for the Department of Land Resource Science to succeed Prof. Terry Gillespie, who completes his term April 30. The search will be internal to the University. Nominations and applications for the position should be submitted by May 11 to search committee chair Prof. Tom Michaels, acting dean of OAC.

**ECOLOGISTS, ETHOLOGISTS TO GATHER ON CAMPUS**

The Ontario Ecology and Ethology Conference runs May 2 to 4 on campus. The conference features four speakers and concurrent sessions of contributed papers. Speakers are Profs. Barbara Mable and John Klironomos, Botany; Judy Wearing-Wilding of CyberNatural; and Prof. Deborah Stacey, Computing and Information Science. More details are available on the Web at www.uoguelph.ca/CBS/conferences.oeec.index.htm.

**B OF G SEEKS STAFF NOMINEES**

Board of Governors is calling for nominations for one staff seat for a three-year term that begins July 1. Candidates and nominators must be full-time permanent, non-teaching employees of U of G. Nominations must be submitted by May 14 at 4:30 p.m. to the Board Secretariat on Level 4 of the University Centre. Election will be conducted by mail ballot. For nomination forms, call Ext. 6572.

# Centre for Families, Work and Well-Being Names Executive Director

*New position will allow centre to be strategic in promoting capabilities*

The issues studied by the Centre for Families, Work and Well-Being have an impact on everyone, says new executive director Linda Hawkins. PHOTO BY MARTIN SCHWALBE

LINDA HAWKINS, the new executive director of U of G's Centre for Families, Work and Well-Being, shares her home with her spouse, her mother and her two children, aged eight and nearly three. So she knows first-hand that terms commonly heard around her office, such as "family-friendly work environments" and "sandwich generation," are more than just words. For Hawkins — and millions of other Canadians — they are the realities of everyday life.

"Family and work is one of the 'it' topics in the media right now," says Hawkins, who received her master's degree from U of G in 1990. "But it is so much more than that. These issues affect everyone I know. We are all dealing with how to juggle work and caring for our children, ourselves and sometimes our parents, and all the other demands of life."

Helping people and companies figure out what works best for them is one of the things Hawkins hopes to do in her new position, which she assumed full time this month.

"I want to continue to promote the centre's reputation for providing excellent research," she says, "and I hope to get information about that research out to more people, in both the academic and practitioner communities. We hope to begin developing models that identify strategies, show what systems actually work best in practice, and tell businesses and organizations step-by-step how they can provide such an environment."

Bringing in an executive director to help handle the day-to-day functions of the centre has always been a goal, says Prof. Donna Lero, Family Relations and Applied Nutrition, who helped co-found the centre in 1998 with Prof. Kerry Daly. Their mission was to promote responsive work environments and help families across Canada manage work and family responsibilities in healthy ways. Since its inception, the centre has helped spearhead numerous research projects on family and work-related issues. These include the *You Bet I Care!* studies on the quality of child care in Canada, the most systematic and multi-jurisdictional studies ever documented on the quality of child care in this country, and Daly's study on Canada's family-friendly workplaces.

"This shift in the centre to having an executive director represents another point of maturation and development for the centre," says Lero. "Linda will be a great asset in terms of strategic planning and should help us reach and exceed our current capacity in the centre."

The centre's mission will remain unchanged, Lero adds. "But having Linda in place allows us to be strategic in what we do about promoting the centre's capabilities on and off campus."

As part of the restructuring, Lero will now serve as research director for families, and Prof. Peter Hausdorf, Psychology, will serve as research director for work, both newly created positions. Jennifer Rooney will continue as senior research associate.

"Our hope is that the centre will become a 'gateway' to all information about families, work and well-being," Hawkins says.

Plans call for improving the centre's Web site to include point of access to a searchable database of articles and other publications on work and life issues, as well as increasing collaboration with public- and private-sector organizations and developing work and family fact sheets directed at human service practitioners and employees.

Current and upcoming research projects include the Work/Life Compendium 2001, a collection of statistics on work, family and well-being compiled by Lero, Rooney and Karen Johnson of Human Resources Development Canada; psychology professor Karen Korabik's work on women and self-employment; Hausdorf's proposed research on the effects of remote-access technology on families; and Lero's analysis of new federal legislation on parental leave.

"The centre was founded on the strength of our research abilities," says Hawkins. "It is widely appealing because these issues affect us all. Our work connects with everyone."

BY *LORI BONA HUNT*

# Library to Close April 28 to May 6

THE MCLAUGHLIN LIBRARY will be closed April 28 to May 6 inclusive to allow the replacement of two transformers. There will be no access to the library's physical collections during this time, but all electronic resources will continue to be available. All service and mail deliveries to the library will be suspended or rerouted.

Throughout the McLaughlin closure, the OVC Learning Commons will be open Monday to Friday from 8:30 a.m. to 5 p.m. and weekends from noon to 5 p.m. for other services and inquiries. These services may be limited May 5 and 6 because of server upgrades.

Direct questions or concerns to Pat Hock, head of administrative and facilities services, Ext. 6574 or pho@uoguelph.ca.

PEOPLE

**PHYSICS ART EARNS NATIONAL KUDOS**

Chris Schultz-Nielsen and Chris Murray, graduate students working with Prof. John Dutcher, Physics, have captured second and third place in the Art of Physics competition of the Canadian Association of Physicists. Launched in 1992, the competition aims to stimulate interest, especially among non-scientists, in imagery associated with physics. Competitors must photograph a beautiful or unusual physics phenomenon and explain it in fewer than 200 words in terms everyone can understand. Schultz-Neilsen and Murray's prize-winning photos, titled *Starry Night* and *Coolio*, can be seen on the Web at www.physics.uoguelph.ca/ psi.

**WOMEN'S MOVEMENT IN CANADA FOCUS OF TALK**

Prof. Lynn McDonald, Sociology and Anthropology, gave a paper on "The Women's Movement in Canada: Setting the Agenda" at a colloquium on "Madeleine Parent and Her Struggles" at McGill University in March.

**CIP DIRECTOR SPEAKS IN GHANA, MALAYSIA**

Prof. Jim Shute, director of the Centre for International Programs, participated in a recent training needs assessment workshop in Accra, Ghana. Participants were agricultural scientists and rural radio broadcasters from Ghana, Uganda, Mali and Cameroon. Shute spoke on *"Communicating With Rural Audiences: Some Canadian Experience."* The needs assessment is expected to lead to a training module to be tested in West Africa in 2002. Shute also gave a paper on "Assessing Academic Staff Performance" to senior administrators of Universiti Sains Malaysia in Penang. The talk was given during Shute's recent visit to U of G partners in Thailand, Malaysia and Hong Kong.

**KILLING TIME IS FOCUS OF ART EXHIBITION**

Gregory Klages of Admission Services is guest curator of a visual arts exhibition called "Killing Time" that runs from April 25 to May 12 at the Propeller Centre for the Visual Arts in Toronto. The exhibition, which features photographic and painted works by 10 artists from Guelph, Toronto and Hong Kong, explores notions of cynicism, disappointment and doubt, as well as the motivating power of such emotions. To preview the works in the exhibition, visit the Web site www.dorissung.com/killingtime.htm.

**CSRC TO HOST STAFF RETIREMENT EVENT**

The Counselling and Student Resource Centre will host a reception April 30 for staff psychiatrist Stan Litch, who retires from CSRC after 33 years at U of G. The event runs from 4 to 6 p.m. in the Whipletree on Level 4 of the University Centre. To RSVP or to donate to a gift, call Barbara Funk at Ext. 3244.

# 'Virtual' Group Aims to Boost Canada's Natural Health Products Industry

*Cluster will consist of companies involved in developing new products and markets*

IMPROVING THE QUALITY, quantity and global competitiveness of Canadian natural health products is the aim of a new "virtual" group being established at the University of Guelph.

The Natural Health Products Technology Cluster will consist of companies involved in developing new products and markets. It will capitalize on collaborative opportunities with public- and private-sector partners, investigate the efficacy of individual products, disseminate consumer information about them, and develop recommendations for standardized labelling for these products.

Natural health products include herbal remedies and vitamin and mineral supplements — such as garlic, ginseng, echinacea and St. John's wort — and nutraceuticals like omega-3 fatty acids, which can be added to milk, cheese and eggs to provide a wide range of health benefits.

"With the increased consumption of natural health products, including botanicals and nutraceuticals, has come a need to increase the size and competitiveness of the natural health product industry in Ontario," says Julie Conquer, director of U of G's Human Nutraceutical Research Unit, which will oversee the cluster. "There is also a need to provide consumers with more information to ensure they are confident in the quality, safety and efficacy of these products."

Conquer says the cluster builds on U of G's nationally recognized reputation for agri-food teaching and research.

"We have a critical mass of people in food production and testing, food science, nutritional science, applied nutrition and agricultural economics, as well as important agri-food private- and public-sector partners located in and around Guelph. This makes Guelph the logical base for this cluster."

The cluster has five charter members to date and over the next few months will be looking to recruit 30 more from various sectors, including government agencies, researchers, producers, trade associations, exporters and retailers. The cluster will be largely "virtual" in nature, with an interactive Web site and high-speed e-mail system, as well as regular on-site conferences and seminars.

Conquer, who is co-director of the cluster with Prof. Bill Bettger, Human Biology and Nutritional Sciences, says the provincial economy will be a key beneficiary of the group's activities.

"To meet demand, we need to be able to develop the industry's infrastructure, market and science base to create a competitive advantage for our members," says Conquer. "These are high-value products with a potentially enormous economic impact. Many natural health products are, in effect, weeds, so a producer could earn a lot of revenue on existing land from plants that are relatively easy to grow."

Initial feasibility funding for the cluster was provided by the Agri-Food Adaptation Council. The cluster start-up follows the establishment in 1999 of the Office of Natural Health Products by Health Canada.

*BY ALEXANDER WOOLEY*

# Facility Built With CFI, OIT Support Will Open Up New Avenues of Study

*Lab will enhance University's reputation as national centre for agri-food, food safety and human health research*

IN THE PAST, U of G researchers interested in investigating highly contagious viruses have been denied the opportunity to do so because of the lack of a safe containment facility on campus.

That's changing, thanks to a new bio-containment facility now under construction with support from the Canada Foundation for Innovation and the Ontario Innovation Trust and matching funding from Agriculture and Agri-Food Canada and Health Canada. A total of $1.25 million was received from these sources.

When it becomes operational next year, the 800-square-foot Level III laboratory "will build on U of G's reputation as a nationally recognized centre for agri-food, food safety and human health research, research that makes a difference to the quality of life of Canadians," says Prof. Mansel Griffiths, director of the Canadian Research Institute for Food Safety, which will oversee the day-to-day running of the lab.

The lab will allow U of G researchers to investigate a host of food safety and animal health pathogens, including *E. coli* O157, BSE (mad cow disease) and West Nile virus in a facility that is safe and secure, he says.

"These are pathogens that virtually every Canadian has heard of and is concerned about. To develop the needed vaccines, antibodies and diagnostic tests to combat these diseases, we must be able to work with these agents in a safe environment."

Griffiths says researchers from a number of departments across campus intend to use the bio-containment facility.

"With this sort of containment facility soon to be available, we may find a growing number of researchers interested in projects that involve new and emerging diseases. It opens up avenues of investigation that were previously unavailable to us."

Levels I, II, III and IV refer to risk groups of biological hazards as designated by Health Canada. They are the recognized standards for levels of physical containment required for micro-organisms, based on the severity of illness they cause in humans and animals.

A Level III designation means the lab design and operation meet high safety and security standards and have passed a rigorous inspection and approval process.

In the case of the U of G facility, scheduled to be completed by this October, the University's biosafety committee has been involved in the planning from the earliest stages. A consultant who has overseen the construction of several Level III labs and the Level IV lab in Winnipeg (the most secure in the country) was brought in to monitor the Guelph construction.

Finally, when completed, Health Canada inspectors will carry out performance and verification testing on all seals, exhaust ductwork, filters and alarms and test standard operating procedures.

"Only then will the facility be allowed to begin its work," says Griffiths.

The Health Canada inspection will be repeated annually.

*BY ALEXANDER WOOLEY*


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Department of Environmental Biology
University of Guelph

Our graduate research assistantship is available at the Master's level (maximum 2 years), commencing in the Fall Semester 2001. The successful candidate should have strong academic credentials. Any experience or knowledge related to tropical agriculture and/or forest ecosystems will be an added advantage. The research assistantship will be awarded through the Ghana-Canada IN CONCERT program funded by the Canadian International Development Agency (C.I.D.A.) The successful candidate will be expected to conduct research within the broad context of agroforestry systems in Ghana (west Africa).

Interested persons should send a copy of their undergraduate transcript, current C.V. and a brief covering letter explaining their background to:

Prof. Andrew M. Gordon,
Department of Environmental Biology,
University of Guelph, Guelph, Ontario N1G 2W1
Fax: (519) 837-0442
E-mail: agordon@evb.uoguelph.ca.

**Application deadline: July 15, 2001**

# Alumni Participation Is in the Spotlight

*New organizational structure puts alumni officers in colleges and creates more opportunities for alumni involvement*

ALUMNI INVOLVEMENT in the life of the University has taken centre stage with the launch of a new team of alumni program officers who have moved their computers and their ideas into the colleges to rub shoulders with faculty and staff and the next generation of alumni.

"It's wonderful to be part of the academic scene, the scurrying of students, bumping into faculty in the halls and picking up a real sense of their priorities," says Laurie Malleau, alumni program officer for the College of Social and Applied Human Sciences (CSAHS). A staff member in Alumni Programs since 1987, she says being closer to the dean's office is also helping to increase awareness in the college of the role alumni play in the life of U of G.

Those are welcome words to Prof. Rob McLaughlin, vice-president (alumni affairs and development), and U of G's college deans, who were instrumental in launching the new staffing model as part of a campus-wide decentralization of development and alumni staff. Development officers have been working out of the colleges for almost two years, says Rudy Putns, executive director of development, who maintains campus-wide co-ordination of fund-raising efforts through a home base at Alumni House.

The new structure is designed to identify the strengths and needs in each college at Guelph and create more opportunities for alumni involvement. Working with deans Carole Stewart, College of Arts; Bob Sheath, College of Biological Science; Peter Tremaine, College of Physical and Engineering Science; Alun Joseph, CSAHS; Tom Michaels, OAC; and Alan Meek, OVC; as well as Brenda Whiteside, associate vice-president (student affairs), the alumni officers are making the connections that will bring more alumni to campus and open doors for students in the workplace. Facilitating volunteer participation in the colleges and Student Affairs and providing professional support to alumni groups are also part of their role.

Joseph says having Malleau and development officer Tim Mau working in the college is "a constant reminder to faculty and students that alumni have been and continue to be our most loyal supporters and are among our greatest resources." In turn, these staff become resources for alumni who want to become more involved in the academic life of the college, he says.

Michaels also welcomes the new way of doing business. "The decentralization of development and alumni activities is an effective tool to help better connect alumni and the broader community with the dean's office and the college. It also keeps us better informed and involved in the whole life of OAC."

The cast of professionals maintaining U of G's alumni connections are, from left: Susan Rankin, Laurie Malleau, Jennifer Brett, Andrea Pavia, Sam Kosakowski, Vikki Tremblay and Carla Bradshaw. PHOTO BY MARTIN SCHWALBE

In future, U of G alumni officers will be spreading their wings across the country to meet and work with alumni on their own turf, helping to create new alumni and volunteer groups and strengthening U of G's existing alumni associations.

Alumni involvement at U of G takes many forms, from speaking at a careers night to sitting on an academic advisory board, mentoring students, hiring students in co-op jobs, taking a position in an alumni association, serving as a class agent/contact, providing scholarships, being a contact for international students, funding student leadership initiatives, advocating on behalf of the University, and welcoming new graduates at convocation ceremonies.

Grassroots involvement is the goal. "When we make it easier for alumni to get involved and acknowledge our appreciation of their efforts, they usually amaze us with their creative ideas and the amount of time and energy they're willing to contribute to our efforts," says McLaughlin. "Ultimately, those volunteers become even more active as advocates and financial supporters of the University."

U of G's new cast of alumni program officers includes Malleau, a 1983 B.Comm. graduate of Guelph who has worked for several years with alumni of the School of Hotel and Food Administration and the former College of Family and Consumer Studies (FACS) and Macdonald Institute. She has previous experience in the hospitality industry and is enjoying a new old office in the 1903 Macdonald Institute building.

Carla Bradshaw, a 1988 BA graduate of Guelph, has worked on campus since 1987, first in the liaison area, then moving to alumni programs in 1992. She has provided professional support to staff and alumni in several academic areas, focusing on alumni activities in OAC since 1999. She says her new location in Johnston Hall has met with approval from alumni.

"Our volunteers have close ties to their college and classmates, and they want to work directly with students and faculty. I think they see real value in our efforts to make alumni programming an integral part of the academic scene. This is where they want to be."

Sam Kosakowski, who graduated from Guelph with a B.Sc.(H.K.) in 1992 and a BA in 1994, has joined the team as alumni program officer for CBS and CPES. A U of G employee since 1990, he has worked as a program co-ordinator and assistant BA counsellor. He also coaches the varsity men's lacrosse team and is currently completing an M.Sc. in rural extension studies.

Susan Rankin, a 1992 BA graduate of Guelph, is a newcomer to the University's staff but not to alumni programming. She has worked in alumni programs, alumni advancement and donor relations at McMaster University since 1995. At U of G, she is responsible for developing alumni programs in the College of Arts and, through Student Affairs, will stimulate alumni involvement in varsity athletics, career mentoring, co-op placements and residence life.

Another newcomer to the alumni staff, 1997 B.Comm. graduate Andrea Pavia, brings management experience gained in the hospitality industry and while working as a customer service officer for the Royal Bank Financial Group. As a U of G student, she was co-ordinator of the job-shadowing program and president of the FACS student association. She is now facilitating alumni program activities for OVC.

Supporting this team from Alumni House are Vikki Tremblay as alumni program assistant and Jennifer Brett, recently hired in a new position as alumni events and communications co-ordinator. Tremblay has worked in administrative positions at U of G for the past seven years. Brett comes to Guelph from UNICEF Ontario and brings experience in community relations, event co-ordination and communications.

Working with Alumni Affairs and Development, they will maintain U of G's long tradition of hosting popular events like Alumni Weekend and Homecoming, supporting class reunions and providing direct support for the U of G Alumni Association. The five alumni officers will support constituent alumni groups and co-ordinate alumni participation in college activities.

*BY MARY DICKIESON*

U OF G GRADUATES will have a chance to meet the alumni program officer for their college during Alumni Weekend June 15 to 17.

Focusing on a theme of "Through the Lens of Time," the weekend will offer generations of alumni an opportunity to share their unique memories of campus.

Weekend events will include the traditional welcome barbecue, president's luncheon and alumni awards presentation, anniversary dinners, class reunions and alumni meetings.

For program details, call Alumni Programs at Ext. 6544 or send e-mail to vikkit@alumni.uoguelph.ca.


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# THE LAST LECTURE

*"University teaching is still not what it could and should be"*

BY SANDY MIDDLETON

Editor's note: Campus Multi-Faith Resources recently launched a lecture series that invites retiring faculty to speak about their lives, beliefs and work as though giving their last lecture ever. This is an edited version of the inaugural talk given by Prof. Sandy Middleton, Zoology, who retires this summer after 35 years at U of G.

I JOINED THE FACULTY OF GUELPH in 1966 at a time when the Canadian university system was expanding apace. It was a time of great optimism. In my naivety, I looked forward to a career in an environment where I was sure there would be genuine respect for scholarship in all its guises, time for reflection and direct interaction with students as they struggled with their education, tolerance, understanding and fair play, and regard for high ideals.

Wisdom in hindsight, however, has taught me that because they are human institutions, universities are little different from others in society. They reflect the full range of human attributes. Thus, even though I have enjoyed my time here, the University has not been the perfect place I once thought it would be.

So what has been my experience at U of G over 35 years? Regrettably, I have seen the University become a less humane and more pressured place. Gone are the days, for example, when the president knew the faculty by name, interacted directly with students and staff, and made time to visit labs and classrooms and even to extend hospitality regularly. Increasingly, it seems, our administrations have become detached and remote from the constituency.

Further, many U of G people are now working harder and longer, which reflects the general trend in North America. What is alarming is that such performance is often expected and is seen by many as being a virtue, irrespective of the real cost in human terms. Accordingly, there is little encouragement in the University for the meaningful development of those other sides of our lives that are important. Nor, in general, does the University provide a compassionate and understanding environment that can readily accommodate the ebb and flow of life of its people, with their triumphs and tragedies.

Second, I lament the University's increasing commercialization. Universities have long benefited from the largesse of benefactors to enhance their activities. What has changed, it seems, is that we are now becoming dangerously dependent on private money to support our core activities. Accordingly, we are not as autonomous as we used to be and are in danger of losing our traditional role of leadership and ability to comment on societal issues. It seems our success is increasingly measured in how much money we can attract from the private sector, government or the granting councils.

Finally, I lament the trend to homogeneity in the University. As faculty, we are expected to contribute in three ways: through teaching, scholarship and service. Despite efforts to incorporate flexibility into that basic formula, it seems that one mould persists, and it's very difficult to break it. Certainly, my experience has been that if you don't fit the mould and comply with its demands, the academic road is likely to be rocky. Individual worth is all too often sacrificed to the demands of compliance to a perceived ideal.

My commitment to teaching is perhaps well known, but when I began my career, I would not have predicted it would be a priority. It was only as my career unfolded that I realized my greatest responsibility was to provide the best I could for my students. Although I have derived great satisfaction from my teaching, I sadly realize that university teaching is still not what it could and should be in terms of stimulation, challenge and quality. Much of this, I suggest, stems from a system that tolerates poor teaching and the egotistical self-centredness of faculty who remain primarily committed to research. Despite the efforts of some to change this, we still have a long way to go before the scholarship of teaching gains the understanding and respect it deserves.

Further, many of the developments that have occurred during my career give me cause for concern about the future of tertiary education. I refer to such things as the trend towards ever-larger classes, combined with the reduction of support staff and the limited ability to interact directly with students; the increasing emphasis on research in senior courses, which fosters the notion that the main role of undergraduate education is to feed graduate schools; the increasing but often poorly thought-through use of technology in teaching, although I can also see its potential benefits; and the grade inflation that permeates our system and is a result of its competitiveness. But these developments are hardly surprising when our president can report to Senate that a government task force has given Ontario's universities a "clean bill of health" as it found education to be both "administratively efficient and cost-effective." How can education ever be evaluated in such a manner? And where is the voice of protest from those who should know better? Sadly, that voice has become muted across what was once a vibrant, self-confident system.

ILLUSTRATION BY ANTONIO CANGEMI

As with my teaching, I have enjoyed my science and the freedom afforded me to engage in it. Again, however, I have observed changes, some of which cause discomfort. The most distressing has been the continual erosion of public support for science and the increased competition among scientists for available resources. This has been accompanied, as elsewhere, with encouragement to develop stronger links with the private sector for funding and demands for more clearly targeted research with an indication of its potential utility. Given this trend, I fear for the independence and objectivity of university science. I also fear for the quality of science in this highly competitive environment. As long as the tendency is to measure its success through its trappings (e.g., amount of money obtained, number of graduate students supported, number of papers published) rather than its substance, I suspect that winning support for science will become more of a game than it currently is. For example, what does the increasing use of the term "grantsmanship" tell us about the integrity of science?

Closer to home, I am concerned about what I see as an increasing trend towards reductionism in science, particularly in biology. Although reductionism can provide new and exciting insights, there is a danger we will lose sight of the whole. In other words, we may learn lots about splinters and even trees but forget about the forest of which they're part.

Let me provide an example in my own field of ornithology. Despite its rich traditions and disproportionately large contribution to biological thought, ornithology is not considered "cutting edge." Thus, when a senior colleague who is influential in Canadian science advises me that "the days of doing good research with mist nets and binoculars are over," I think there is genuine cause for concern. I interpret this to mean that science is becoming more interested in tools and techniques than in questions being asked. Perhaps this explains why the happiest and most productive stage of my scientific career occurred while on sabbatical at the Edward Grey Institute of Field Ornithology in Oxford. There, I was in the midst of a vital group of young scientists who appreciated ornithology as a legitimate and exciting branch of biology, and in a university that, despite its elitism and English stuffiness, was still a scholarly place.

Given my comments, how have I managed to stay the course? There have been two overriding influences — my family and my faith.

In my marriage and family life, I have been truly blessed. My wife, Ann, has been a constant support throughout our life together. Her love has never let me down. She has been the key element in the transition of a house to a home — a home that has always provided me with understanding and sympathy when needed and a safe refuge at all times. She will never fully appreciate the debt I owe her. Further, we have been blessed with three wonderful children and, in the last year, have experienced the new joy of being grandparents!

Were we just lucky in our relationship? I think not. Our relationship has been built on a commitment we *both* made when we were married. The need for that commitment was reinforced for me soon after the birth of our first child. At the time, I was in the early stages of PhD studies and, like most young graduate students, was devoted to my work. One Saturday, I was headed into work, leaving behind an exhausted wife and crying daughter, when it struck me that I was dealing with my loved ones in a pretty cavalier fashion. I resolved there and then that I would try to set aside one day each week for family — a commitment I've been able to maintain, more or less, throughout my career. If I have one word of advice to give, it is: "Don't take your loved ones for granted."

The foundation for my daily life, however, has been my faith. It provides meaning in my life. I am a Christian, but not in the evangelical sense. As a result, I don't wear my religion on my sleeve, I don't actively proselytize, and I don't endlessly quote chapter and verse to defend a position. I am liberal in my interpretation of the scriptures and gospels, yet I espouse Christian values and hope that, although I often fall short, my life and actions may reflect them.

This brings me to the end of my "last lecture." Retirement lies before me, and although I am ready to embrace it, I will not leave the University without some sadness. In general, I have had a happy and fulfilling career that I wouldn't exchange for any other. Being a university professor has been a great privilege, and I thank the society that made it possible. I will miss the students. I will miss teaching and the subject for which I have a passion. And I will miss some of my colleagues. But I will not regret leaving behind the less enjoyable aspects of university life engendered by its human frailties.

Has my career been a success? The answer to that may vary depending on who you ask and how you define success. I have my own thoughts on the matter. So I close with the following poem by Ralph Waldo Emerson.

***Success***

*To laugh often and love much;*
*To win the respect of intelligent persons and the affection of children;*
*To earn the approbation of honest citizens and endure the betrayal of false friends;*
*To appreciate beauty;*
*To find the best in others;*
*To give of one's self;*
*To leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social condition;*
*To have played and laughed with enthusiasm and sung with exultation;*
*To know even one life has breathed easier because you have lived — This is to have succeeded.*

PROFILE

# A Renaissance Woman

*New book combines author's love of agriculture, history, writing, cattle breeding and art*

BY LORI BONA HUNT

MARGARET DERRY was up half the night with an unhappy baby and an irritable mother, and this after spending the entire afternoon anxiously awaiting the arrival of a newborn. She looks remarkably bright-eyed, all things considered.

There are some things — like occasional sleep deprivation — that Derry simply accepts as part of her labour of love. For the past 15 years, the adjunct U of G history professor and well-known artist has also been a cattle breeder. Along with her chartered-accountant husband, Doug, she has developed a purebred line of Murray Greys, distinguishable by their silver-to-chocolate coats, calm demeanour and hornless heads.

Margaret Derry, who drove in to Guelph this particular morning from her farm in the rural community of Caledon, talks affectionately about her four-legged "darlings." But she is ever mindful of some of the harsher realities of her profession, most recently foot-and-mouth disease (FMD). Like many other Canadian farmers, she is fighting to keep the deadly virus away from her farm, her investment and the animals she loves. "Just one mistake could ruin the years of hard work and commitment it took to build our reputation," she says.

Yet during these tumultuous times, Derry has taken on some additional responsibilities. Her book *Ontario's Cattle Kingdom* was published this month and explores the complexities of the livestock industry and disease control, including a section on FMD. The book's coincidental but timely release and Derry's expertise on cattle, agriculture and the painful lessons of the past have made her a much-sought-after media source.

"These outbreaks are nothing new," she says, adding that she's made a point of saying this in the numerous television, radio and newspaper interviews she's given in the past few weeks. Although FMD is serious, there are other viruses already here at home, she says. "These diseases could kill my cattle today if I'm not careful, and these are always on my mind."

Derry also emphasizes that she is not a veterinarian or biologist. Her expertise lies in her ability to place the outbreak in a historical context, provide colourful and articulate commentary about how it feels to be a farmer in the midst of so much uncertainty and concern, and explain FMD in understandable terms. In a recent TV interview, for example, when a CBC *Newsworld* anchor asked how contagious the virus is, Derry explained that if FMD was on her farm and she walked across the road to get her mail, a car driving by could pick it up on its tires and continue spreading the virus. She went on to explain the origins of the disease, from how it was transported throughout Europe in early times by soldiers who walked across the countryside during war, to the reason it became epidemic in Great Britain in the late 1840s when that country, the biggest market for meat in the world, began to import live animals from Europe.

But Derry — being an agricultural historian — knows that often, the lesson of history is that the more things change, the more they stay the same. FMD is no exception.

"Despite the fact that we now understand the foot-and-mouth virus well, we're not doing anything too different from what they did in the 1690s to control disease outbreaks. Back then, they used slaughter, quarantine and restriction of movement. What are we using today? Slaughter, quarantine and restriction of movement."

PHOTO BY MARTIN SCHWALBE

Disease outbreaks and how they're handled is just one area Derry covers in her book, which will be formally launched in Guelph April 28 at 3 p.m. at the Bookshelf. The book also explores the relationship between human and animal illness and links science, agriculture and business while looking at the significance of beef cattle and livestock farming in Ontario in the late 19th and 20th centuries.

Derry had no idea the book would be released at the height of an international media frenzy over FMD. Rather, she chose her subject matter because it combined all of her loves: agriculture, history, writing, cattle breeding and even art. One of her oil paintings, *Cattle on a Hillside*, has been reproduced as her book's cover.

Derry, who taught herself to draw, says she's always loved animals, loves painting them and has always wanted to breed them.

How she went from being a historian and artist to an award-winning breeder of purebred Murray Greys is quite a story. She and her husband did their undergraduate work at the University of Western Ontario, married in 1968, then moved to Toronto, where Margaret Derry attended the University of Toronto and earned a master's degree in American history in 1970. She then embarked on a career of "art and children." "It seemed to make sense at the time," she says. "I had two young children, and art was something I had always loved."

A painter in watercolours and oils, she was represented by a number of Toronto galleries, and her works are known for their themes of children and cattle. But painting animals is one thing; raising and breeding them is something else entirely. And before buying a farm, Derry knew nothing about cattle and had never lived in the country.

"We were living in downtown Toronto and wanted our children (David and Alison, both U of G graduates) to have another way of life." So she and her husband bought a farm in Caledon. "For the first five years, we would go up mainly on weekends, and we didn't have any animals." That changed when David Derry, who was 10 at the time, returned from a trip to Great Britain with a huge poster that showed all the different cattle breeds. It was the beginning of an intense cattle-breeding campaign, with Doug Derry the intended target.

"I remember that the children and I sat Doug down under the trees on the farm and said: 'We have the farm; can't we have at least one cow?' He finally said: 'Fine, but the three of you have to do all the research into which breed we should get, and then you will be in charge."

After careful research, the three settled on breeding Murray Greys and started out with four bred heifers. "They aren't at all common in Canada," says Margaret Derry, "and we thought we could develop our own purebred line. And we were *right in spades. Our cattle have done extremely* well."

They have, in fact, won many awards, including Grand Champion Bull, Grand Champion Female and Best Breeder's Herd of Cattle at the Royal Agricultural Winter Fair. Derry has also sold breeding stock all over North America.

But in the mid-1990s, she decided she was up for even more challenges. "I had a lot going on with the children, the cattle and the painting, but after the children finished high school, I thought I should go back and do what I always thought should be done." So she returned to U of T and by 1997 had earned a doctorate in agricultural history, a program she largely designed herself. "It's a huge unexplored field," she says, "and not enough is being done with it."

In addition to *Ontario's Cattle Kingdom*, Derry has written a second book titled *Striving for Perfection: Patterns in Purebred Animal Breeding*, which has been requested for consideration by John Hopkins University Press, and a third book is under way. She is also an associated scholar of the Institute of the History and Philosophy of Science and Technology at U of T.

Her busy schedule — made even busier with the FMD scare and media calls — often requires dividing her time among Guelph, Toronto and Caledon. But neither the lure of the big city nor her fascination with agricultural history can compete with the draw of the farm, where daily life consists of watching out for coyotes or the next disease outbreak and, of course, the occasional arrival of a possible future champion.

"We just had a calf born yesterday, so I think the herd is up to 22 now. It fluctuates, depending on how many we keep, and this year, I think I'll hold some back. I'm determined to keep some of my little darlings."


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# Internship Program for Young Leaders Offers First-Hand Experience With Rural Organizations

*Agri-Food Continuing Education Council focuses on increased education and training to bolster rural economic development*

TWELVE certificate students have graduated from a unique U of G internship program that allows young Ontario adults with a proven interest in agriculture and rural issues to experience first-hand how the province's leading rural organizations are managed and led.

The Internship for Young Leaders (IYL), a U of G certificate program delivered by OAC in partnership with Junior Farmers and the federal government, pairs interns with board members at leading rural Ontario organizations.

"Through this program, young people develop their leadership, research and public-speaking skills," says Kathy Biondi, OAC's director of agri-food continuing education, who oversees the program. "They learn the goals, politics and audience of an organization, develop an overall awareness of issues facing rural organizations and achieve a sense of civic contribution. They also develop an understanding of how to promote an organization's cause through lobbying, information presentations and project initiatives, and gain insight into how the government affects rural Ontario boards. It's a tremendously valuable opportunity for young people."

Working with their mentors, interns study the mandate of the mentoring organization, participate in workshops to learn how boards operate, attend conferences and complete a special project as part of the program.

Now entering its third year, the program is looking for new applicants aged 18 to 30 as well as potential mentor organizations.

Among the 12 interns graduating this month was Janet O'Rourke of Dublin, Ont., who was named top intern for the year after mentoring with Women in Rural Economic Development (WRED).

"I was honoured to be named top intern," said O'Rourke. "The WRED board allowed me to dig right in and get involved in the issues. The most important feature of the program is the knowledge and experience gained while participating on a board of directors. Because each intern mentored with a different board, we all gained an awareness of how boards function. The IYL program requires discipline and self-motivation, and I would highly recommend it to anyone wanting to gain more leadership skills."

O'Rourke, who runs a family farm with her husband, says she chose WRED for her internship because she's interested in training programs for rural women and plans to become more involved in rural organizations as a board member in coming years.

The IYL program is just one initiative under the broad mandate of the Agri-Food Continuing Education Council. Formed in 1997, the council comprises the dean's office and Independent Study (IS)/*@access* in OAC, U of G's Office of Open Learning, continuing education at Collège d'Alfred, client services at Ridgetown College and the business development centre at Kemptville College.

On Jan. 1, the council formally rededicated itself to rural economic development as its core strategic mission. In a knowledge-based economy, council partners realize that increased education and training will be the basis for improved performance both in terms of traditional agriculture and if new economic opportunities for rural Ontario are to be fully realized, says Biondi, who chairs the council.

People are at the centre of the council's activities, she says. To meet their needs, the council plans to deliver a greater number and range of certificate courses and programs, combining new and traditional methods to deliver continual learning programs, distance and independent learning, experiential learning, and Web-based and video-conference technologies. The council also plans to stage technology transfer conferences for farmers, offer non-professional courses, and make facilities and advisory services available to the broader rural community.

"The council has reinvented itself around a core strategy of rural economic development to address the needs of producers, the agri-food industry and our rural neighbours by expanding our stakeholder audience and adding to our services," says Biondi. "Our evolution from providing only short courses to a multitude of innovations in education, research, technology transfer and services, and partnerships with industry and government is amazing."

Certificate and diploma courses continue to be the mainstay vehicle of the council. In 2000, 24,279 course registrations were sold, which equates to 700 full-time student equivalents.

*"The council has reinvented itself around a core strategy of rural economic development to address the needs of producers, the agri-food industry and our rural neighbours by expanding our stakeholder audience and adding to our services."*

Courses and technology training target the agri-food industry, food processing and handling, mechanics and related technologies, landscaping, horticulture and environmental protection.

"We deliver a range of applied, technical and continuing education courses, sometimes in distance mode, sometimes in person," says Biondi.

In addition to the IYL program, the OAC dean's office supports the Advanced Agricultural Leadership Program, an executive development program for the agriculture and food sectors in Ontario. This summer, OAC will host the Agricultural Institute of Canada and the Canadian Society for Engineering in Agricultural, Food and Biological Systems Conference.

U of G open learning courses also support rural economic development with eagerly anticipated courses such as cheesemaking and ice cream technology and the Ontario Turfgrass Symposium. By this summer, IS/*@access* will have a total of 15 courses available electronically as part of the Ontario diploma in horticulture program. The office also signed an agreement with Rutgers, the State University of New Jersey, to distribute IS horticulture and landscaping learning materials through the U.S. institution.

As part of the rural economic development mandate, Collège d'Alfred, in partnership with Collège Boréal, is implementing a training program for administrators and elected officials belonging to the Association of Francophone Municipalities, and is working with U of G's School of Rural Planning and Development to study agricultural training needs in the five easternmost counties of Ontario.

Besides a range of certificate and diploma offerings, Alfred is developing agricultural training, safety and environmental programs with partners in Kazakhstan, Kyrgyzstan, Morroco, Mexico, the Congo and Romania.

Kemptville College offers food production and management, equine management and arboriculture certificates in addition to a well-received pilot apprenticeship for dairy herders.

Ridgetown College delivers the Ontario Pesticide Education Program and a new Livestock Medicines Education Program, and also plans to develop additional veterinary correspondence courses to complement the advanced anesthesia and medical emergencies courses currently offered.

*BY ALEXANDER WOOLEY*


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# A Breakthrough for Back Surgery

*New compression device is a crucial link in spinal operations*

CORRECTIVE SPINAL surgery is a highly invasive procedure, but it may soon be made easier and less traumatic, thanks to an innovative surgical tool designed by U of G engineering students. Working with Prof. John Runciman, they have created a thoroscopic compressor, a medical device they believe will be particularly helpful for operations performed to correct a spinal curvature problem called scoliosis.

"The compressor is the missing link to more progressive spinal surgery," says Runciman. "It could change the nature of back operations drastically."

The compressor is used after a splint of screws and a rod are implanted in the spine. Then the device — about 30 centimetres in length and two centimetres around — is inserted through a 2.5-centimetre incision to reach the desired area of the spine. A claw-like structure on the end is used to compress the vertebrae — a procedure necessary to re-establish proper loading in the anterior column of the spine and to improve spinal alignment — and is controlled by a lever on the handle, operated by the surgeon.

This new tool could mean less scarring, faster recovery times and less overall trauma for patients, who are typically young teenage females. They are usually treated with a back brace or major corrective surgery.

Traditional surgical techniques require a large incision that starts between the shoulders and extends to the lower back for posterior entry or around the rib cage for anterior access. These major incisions cause considerable trauma to the muscle structure around the spine and require a recovery period of up to six months. The procedure also leaves significant scarring.

Engineering student John Phillips is part of a research team that has developed a spinal compression device that could revolutionize corrective back surgery.

PHOTO BY MARTIN SCHWALBE

But there's been no alternative. The existing instrument used to compress the vertebrae is awkward and can't fit through the small incisions needed for less intrusive surgery.

Runciman was first aware of this dilemma four years ago when he was working for DePuyAcroMed, a U.S.-based Johnson & Johnson company that builds biomedical equipment. When he came to U of G in 1998, he presented the problem to a fourth-year engineering class and suggested the students find a solution as the major design component of the course.

The challenge to the students was to design a surgical compression instrument only two centimetres in diameter that could compress vertebral bodies in the spine *and* be user-friendly. The instrument design had to allow surgeons to use the tool intuitively, be comfortable and well weighted, and be able to withstand high temperatures for sterilization. But most important, it had to perform flawlessly every time.

A group of four students — Gino Cicchello, Stefan Michalski, James Pemberton and John Phillips — rose to the challenge. They began with brainstorming, and after trial, error and feedback from AcroMed engineers, the final design — with all the required characteristics — took shape.

AcroMed built a prototype and distributed three sample instruments for clinical trials in the United States.

The students say the project gave them invaluable experience working as engineers and applying their knowledge in a tangible way.

"This made everything we've learned in classes very meaningful," says Phillips. "Working closely with the industry really tied our technical skills in with real-life applications."

This research is sponsored by DePuy AcroMed.

*BY MARIANNE CLARK*
*OFFICE OF RESEARCH*

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# Students Scratch Their Names in College History

*CSAHS Heritage Night event celebrates legacy of Macdonald Institute*

IN THE SPRING of 1904, four young women scratched their names into the window glass of a door located inside Macdonald Institute, where they were studying domestic science in the province's first school for women.

Inspired by those scratched names, another group of young women who take classes today in that same red brick building found a way to reconnect with the history of their college and to build a sense of community among their own classmates. On March 24, they hosted a unique Heritage Night that drew almost 200 people, mostly students, to a reception in the former Macdonald Institute building, now home to the dean's office of the College of Social and Applied Human Sciences (CSAHS).

Gerontology students Beth-Anne Tsourounis, Paula Black and Sarah Hill and applied nutrition students Amie Phillips and Lyndsay Armstrong spearheaded the event.

"I didn't really know what Macdonald Institute was until I did some research in the library," says Tsourounis, who started the initiative. "I didn't want to spend four years of my life here and not know anything about it. It's amazing how far women's education has come in a hundred years, and many of the Mac Institute grads went on to do some really incredible things."

The student group enlisted help from college staff and alumni to help them put together a display of memorabilia and a slide show that highlighted the experiences of Macdonald Institute students from 1903 to the mid-1960s. Their committee included Shirley Surgeoner, a member of the Mac-FACS Alumni Association; Kate Revington, former B.A.Sc. academic counsellor; Prof. Marg Hedley, Family Relations and Applied Nutrition; and Laurie Malleau, alumni program officer for CSAHS.

Malleau says the positive response from students has led to a commitment to expand the Heritage Night event next year to cover the college's history after the establishment of U of G.

"We hope to attract more CSAHS alumni, faculty and staff to the 2002 event, leading up to a University-wide celebration in 2003, when we will be able to look back on a full century of progress in education centred around families, community life and social issues."

Malleau is already working with a volunteer alumni committee headed by Surgeoner and Mac graduate Rosemary Clark to prepare for the 2003 anniversary. Graduates and CSAHS employees with ideas or time to share can call Malleau at Ext. 2102.

*BY MARY DICKIESON*

# Going for Gold

*Partnership with 4-H continues longtime relationship*

U OF G started a gold rush last year at the Royal Agricultural Winter Fair. As the fair opened, it was announced that the U of G Alumni Association (UGAA), the OAC Alumni Association (OACAA) and the OAC Alumni Foundation (OACAF) have become the exclusive sponsors of 4-H Ontario's provincial 'Go for the Gold' competition.

A worldwide organization, 4-H is an informal youth education program with more than 7,500 members in Ontario. 'Go for the Gold' is a quiz game for 4-H members aged 10 to 21 that has become an integral part of the 4-H program across Ontario.

The 'Go for the Gold' competition originated in 1985 in Peterborough and has expanded province-wide since. Recent changes in delivery of the 4-H program in Ontario have meant that the organization is looking at strategic business alliances to ensure programs such as 'Go for the Gold' continue in the future. It was Wally Knapp, a 1948 graduate of OAC who is active with the UGAA and OACAA as well as 4-H, who brought forward the proposal that U of G get behind the provincial competition. The UGAA got on board, and the OACAA and OACAF agreed to provide the balance of the sponsorship for the next five years, contributing an early boost to the 4-H campaign.

"We're really excited about this partnership," says Rob Black, executive director of 4-H Ontario. "It's a great fit for both parties because ties between 4-H and the University have existed for many years."

Black, a 1985 graduate of OAC's agricultural economics and business program, says many U of G students are former 4-H members, as are many OAC staff and faculty.

"We hope this sponsorship will encourage 4-H members to attend the University of Guelph as the time approaches for them to choose a school," he says. "Our two organizations have a long history together, and this is an excellent opportunity for more involvement."

*BY LUCAS HABIB*
*OFFICE OF RESEARCH*

# Distance Offerings Grow

*Three departments offer distance education courses for the first time*

FOR THE THIRD YEAR in a row, U of G's Office of Open Learning has boosted its distance education offerings, introducing 12 new courses for the summer semester and bringing the total number of summer offerings to 82.

Some 5,000 to 6,000 students and community members are expected to enrol in the summer semester, with classes beginning May 7.

"It's very exciting to be offering more courses through distance," says Kian Merrikh, marketing research manager in the Office of Open Learning. "It gives both university students and non-traditional learners increased access to high-quality, current materials and resources, providing them with more choice and more flexibility in meeting their career or personal enrichment goals."

Three departments are offering online courses for the first time — Agricultural Economics and Business, Molecular Biology and Genetics, and Philosophy.

The 12 new courses are "Financial Accounting," "Management Accounting," "Information Management," "People, Places and Spatial Organization," "Introduction to Hospitality and Tourism Management," "Introductory Calculus I," "Introduction to Genomics," "Philosophy of the Environment," "Quantification in Psychology," "Social Deviance," "Planning Industrial Ecology" and "Introduction to Gender Systems."

Of the 82 summer courses, 59 are conducted online, and most of the others offer the option of using the Internet as an additional resource.

"Our distance courses are unique in that we go out of our way to ensure every course is pedagogically sound and learner-focused," says Merrikh.

U of G began increasing its distance education courses in 1998 after a survey revealed that students wanted more distance education offerings in the summer semester. In the summer, campus-based enrolment traditionally drops from about 12,000 to 3,000 students.

To help boost enrolment, U of G developed a number of initiatives to promote its distance programs, including a "Learn While You Earn" campaign that encourages students to take courses while they work over the summer.

In total, the University offers 120 distance education courses.

For more information, call Merrikh at Ext. 3755 or visit the Web site www.open.uoguelph.ca/about/services.html.

*BY LORI BONA HUNT*

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# CLASSIFIEDS

## FOR RENT

Summer sublet available in four-bedroom townhouse with one other person, close to bus stops and grocery store, furnishings available, $300 a month inclusive (negotiable), Lisa, 829-2708.

Furnished bedroom with private bath in townhouse near Kortright/Gordon, shared kitchen and laundry, 15-minute walk to campus, close to small plaza, non-smokers, no pets, females preferred, $400 a month inclusive, Tina, 822-9577.

Georgian Bay Island cottage, quiet, peaceful, million-dollar view, Ken, 822-2125 days or 822-7705 evenings.

One bedroom in shared house, two blocks from campus, suit a mature female student, available May 1, 836-9236.

Furnished holiday home in the south of France (Antibes/French Riviera), two bedrooms, two baths, available weekly and monthly, Nicole, 836-6745 or fnmoll@webtv.net.

## FOR SALE

1989 Isuzu Trooper, 4WD, air, new tires, excellent condition, send e-mail to dcsmith2251@aol.com.

White GoldStar refrigerator, model GF-131SPF, small freezer, easy to clean, less than a year old, send e-mail to hlao@uoguelph.ca.

King-sized waterbed with bookcase; large granny rocker; new bread maker; two-drawer filing cabinets; floor lamp; brown wool rug, eight by 10 feet; Eddie Bauer long coat and ski jacket, women's medium; folding travel bag suitcase; large gold-coloured antique milk can, 856-0874.

Mirror, 77 by 39 inches, Janet, 827-9013.

Rival automatic steamer and rice cooker, eight-cup capacity, all-plastic construction, never used, still in box, Ext. 6580.

Cross-country skis, poles and shoes; mountain bike, send e-mail to eramon@uoguelph.ca or estelleramon@hotmail.com.

Reel-to-reel recording tape, large quantity from recording studio, reasonably priced, Ext. 3504 or hdavis@uoguelph.ca.

Two-bedroom house/cottage in Haliburton, more than an acre of property, 1½ baths, woodstove, propane stove and water heater, close to Eagle Lake, Laura, Ext. 2264.

## WANTED

Research team seeks feedback from faculty and students on Ontario's student loan system. You are invited to share in writing your impressions of how participation in institutionalized borrowing has affected post-secondary education. Respond by e-mail to midtownprod@hotmail.com.

Reasonably priced one- or two-bedroom apartment for student with two cats, James, 836-8510.

Rental accommodation for quiet non-smoker with no pets, in urban or rural area, shared or private, 763-6120 or gbowles@golden.net.

One- or two-bedroom apartment for professional couple in quiet area, close to downtown and campus, 822-9092 Monday to Thursday after 5:30 p.m.

Experienced, reliable and caring individual to provide full-time day care Monday to Friday, 8 a.m. to 6 p.m., for two infants in our home, non-smoker, references required, Moira, 763-4890.

## AVAILABLE

Free 19-inch Hitachi CAD monitor with video cards, 763-6120 or gbowles@golden.net.

Free four-cubic-foot car-top carrier, send e-mail to phyjlh@physics.uoguelph.ca.

Care for your dog in my home while you travel, Cobi, 836-8086 or send e-mail to cdemmers@uoguelph.ca.

**Classifieds is a free service available to U of G staff, faculty, students, alumni and retirees. Submit items to Linda Graham on Level 4 of the University Centre, fax to 824-7962 or e-mail to l.graham@exec.uoguelph.ca. For commercial advertising, contact Brian Downey at Ext. 6665 or bdowney@exec.admin.uoguelph. ca.**

### @GUELPH PUBLICATION SCHEDULE

| Publication Date | Deadline |
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| May 9 | April 30 |
| May 23 | May 14 |
| June 6 | May 28 |
| June 20 | June 11 |


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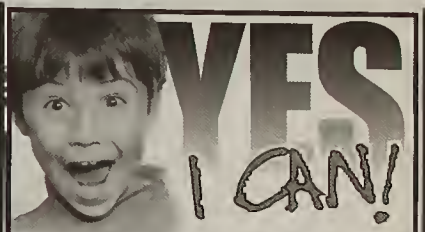


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# EVENTS

## ARBORETUM

Naturalist Chris Earley leads two all-day workshops on birds next month, focusing on summer forest birds May 23 and sparrows May 30. Each session runs from 9 a.m. to 4 p.m. and costs $45. Registration and payment deadlines are May 9 and 16.

The Arboretum Auxiliary's series of seasonal Sunday afternoon walks continues May 6 with "Wild About Wildflowers" and May 20 with "Spring and Migration." The walks leave from the Nature Centre at 2 p.m. and are free, with a suggested donation of $3 per person. For more information, call Ext. 2113.

## ART CENTRE

The Macdonald Stewart Art Centre will hold an opening reception for the exhibition "Lori Newdick: Felonious" May 10 at 7:30 p.m. The show continues until Aug. 3.

The Macdonald Stewart Art Centre is again offering an art camp for children aged seven to 12 this summer. Four- and five-day sessions will be offered weekly from July 3 until Aug. 31. Classes run from 9 a.m. to 4 p.m. Cost is $165 for five days, $132 for four. Registration begins May 5 and must be done in person at the art centre during its regular hours, Tuesday to Sunday, noon to 5 p.m. For more details, call 837-0010.

## NOTICES

Applications are invited for Smuts Fellowships in Commonwealth Studies in association with a visiting fellowship at Wolfson College, to be held during the 2002/2003 academic year. Fellowships are available for research in Commonwealth studies, including archeology, anthropology, economics, history, human geography, law, literature, oriental studies, and social and political science. Applicants should hold a PhD or be working at a post-doctoral level. Application deadline is Aug. 28. For an application package, send e-mail to kfw20@admin.cam.ac.uk. More information is available from the Office of Research.

The Department of East Asian Studies at the University of Toronto is calling for papers for its second annual graduate students' conference on East Asia, slated for Oct. 19 and 20. Abstracts must be submitted by June 1, and papers are due Aug. 17. For more information, send e-mail to easgsc@chass.utoronto.ca or visit the Web site www.chass.utoronto.ca/easgsc.

The Stress Management and High Performance Clinic will offer classes in relaxation and stress management skills beginning May 22 and running Tuesdays and Thursdays from 8 to 9 p.m. in UC 442. Cost is $40 for students, $60 for UGSA members and $120 for others. The clinic will also offer a program to promote better sleep beginning May 29 and running for five Tuesdays from 5:30 to 6:30 p.m. in UC 442. Cost is $20 for students, $50 for others. Pick up registration forms at the UC information desk. For more information, call Ext. 2662 or visit the Web site www.uoguelph.ca/ ~ksomers.

## SEMINAR

The Guelph-Waterloo Centre for Graduate Work in Chemistry and Biochemistry will hold its annual seminar April 27 at 3 p.m. in Thornbrough 100. University of Waterloo chemist Gary Dmitrienko will discuss "Three Little Atoms, All in a Row: The Mysterious Affair of the Kinamycin Antibiotics." The public seminar will be preceded by the centre's annual meeting and followed by a poster session and awards presentations, which are open only to members of the centre.

## TEACHING SUPPORT

Teaching Support Services, the College of Arts and OVC host the conference "Collaborative Learning: Opportunities and Strategies at the University of Guelph" May 17 from 8 a.m. to 5 p.m. in Peter Clark Hall. Register on the Web at www.tss.uoguelph.ca/tli.html.

## THESIS DEFENCES

The final examination of M.Sc. candidate Patrick Langille, Environmental Biology, is April 25 at 9:30 a.m. in Graham Hall 3301. The thesis is "Selectivity of Nicosulfuron of *Seteria glauca* and *Seteria viridis*." The adviser is Prof. Gerry Stephenson.

The final examination of Jan Noesthesden, an MFA candidate in the School of Fine Art and Music, is April 26 at 2 p.m. at the Macdonald Stewart Art Centre. The work is titled *The Casino's Evil Twin*. The adviser is Prof. James Carl.

The final examination of PhD candidate Mohamid Izarali, Philosophy, is April 27 at 2 p.m. in MacKinnon 132. The thesis is "Free Trade as a Normative Concept." The adviser is Prof. John McMurtry.

The final examination of M.Sc. candidate Shelly Bonte-Gelok, Engineering, is April 30 at 9:30 a.m. in Thornbrough 1360. The thesis is "Interpretation of the Historical Surface Water Quality Data in Huron County, Ontario, Canada." The adviser is Prof. Doug Joy.

The final examination of Daniel Richards, an MA candidate in the Department of Philosophy, is April 30 at 2 p.m. in MacKinnon 904. The thesis is "Grounding the T-Schema." The adviser is Prof. Peter Loptson.

The final examination of MFA candidate Lori Newdick, Fine Art and Music, is May 1 at 10:30 a.m. at the Macdonald Stewart Art Centre. The work is titled *Lure*. The adviser is Prof. Suzy Lake.

The final examination of Stephen Ibbott, an MFA candidate in the School of Fine Art and Music, is May 3 at 10:30 a.m. in Zavitz 207. The work is titled *Ctrl-Shift*. The adviser is Prof. Monica Tap.

The final examination of PhD candidate Phillis Chang, Chemistry and Biochemistry, is May 15 at 2 p.m. in MacNaughton 222. The thesis is "Solid-State NMR Spectroscopy and Ab Initio Calculations of Some Base-Free Organolithium Compounds." The adviser is Prof. Glenn Penner.

## COMMUNITY EVENTS

Guelph-Wellington Master Gardeners present their fifth annual plant sale May 12 from 8:30 to 10:30 a.m. at the Turfgrass Institute.

The Lung Association of Wellington County hosts its second annual golf tournament June 1 at Victoria Park East in Guelph. Tee times run from 11 a.m. to 1 p.m. To register, call 822-7951.

Wellington County Museum and Archives presents an exhibition of carvings by Mennonite farmer Jacob Roth until May 6. On May 3, folk artist Nancy-Lou Patterson will give an illustrated talk on "Folk Art Woodcarvers: Men Making Meaning" at 7:30 p.m. Tickets are $4 and can be reserved by calling 846-0916, Ext. 221.

The Guelph Community Health Centre is holding a silent 50/50 art auction as its grand-opening fundraiser May 11 at 176 Wyndham St. N. For more information, call 821-5363, Ext. 367.

The Centre Wellington Citizens' Coalition is organizing a self-guided garden tour June 9 in Elora. The fund-raising event will feature eight early summer gardens. Tickets are $10 and will be available June 9 at the Elora information kiosk. For more information, call 846-2586.

The Guelph Arts Council launches its annual series of historical walking tours April 29 with "Where Guelph Began," an exploration of many of the city's earliest buildings within the original Market Square area. The tour leaves from the Guelph Civic Museum at 2 p.m. Cost is $2.

As part of its current exhibition "The Avro Arrow: A Dream Denied," the Guelph Civic Museum presents Ara Torigian discussing "One Engineer's Experience With the Avro" April 28 at 2 and 3 p.m. Cost is $4 for adults, $3 for seniors, students and children and $10 for families. Also on exhibition at the museum this spring is "Rockwood Lookout," featuring works by Guelph artist Jacob Xerex.

The Suzuki String School of Guelph will close its 2000/2001 season with two spring concerts. The string ensemble will perform April 29 at 3 p.m. at Westwood United Church. On May 6 at 3 p.m., the school will hold its annual spring concert at the River Run Centre. Both performances are free.

# Turning Tomato Trash Into Treasure

*Study looks at the potential of extracting cancer-inhibiting compound from skin of tomatoes*

TOMATO SKINS — a waste by-product of tomato processing — are the source of a beneficial cancer-fighting compound that could turn Ontario's tomato belt into a nutraceutical nirvana.

John Shi, an Agriculture and Agri-Food Canada (AAFC) research scientist with a joint appointment at U of G, is looking at the potential of extracting lycopene — a cancer-inhibiting compound that occurs naturally in fruits and vegetables — from the skin of tomatoes.

Clinical studies have shown that lycopene may actively inhibit the development of several cancers, including prostate, digestive tract, breast, lung and cervical, as well as cardiovascular disease and other chronic diseases.

More than 500,000 tonnes of processing tomatoes are produced in Ontario annually, and more than 25,000 tonnes of tomato skins and outer material (known as pericarp) are discarded as waste.

"We're looking at how to turn a waste material into a very useful substance that greatly benefits humans," says Shi. "Southern Ontario has a large source of lycopene because of all the tomatoes it produces, so developing a market for it in the province looks promising."

In its pure form, lycopene is valued at about $100 a milligram as chemical standard. For food-grade lycopene, the supply is not sufficient to meet the potential demand. The suggested daily dosage is 10 to 50 mg, which makes lycopene too expensive for many people, Shi says.

That's where the tomato comes in. Fresh tomatoes have high levels of lycopene — higher than any other fruit or vegetable — with the highest concentration found in the skin and outer pericarp. And Ontario produces more tomatoes than anywhere in North America except California. There are more than 10 tomato processing plants located in southern Ontario.

When tomatoes are processed, the skin is peeled and discarded. In fact, says Shi, the amount of skin discarded each year in Ontario could create 5,000 kg of lycopene. The level of lycopene present in some tomato products is lower than in whole tomatoes because most of the lycopene remains in the skin. One of Shi's ideas is to fortify tomato products with lycopene extracted from tomato skins, so people can consume more of the nutraceuticals.

Some researchers have suggested that daily consumption of products providing at least 40 mg of lycopene may reduce the risk of cancers, says Shi. That's about 800 to 1,000 grams of tomatoes daily, which means people need to have lycopene in concentrated amounts.

To extract lycopene from tomato skins, Shi used supercritical fluid carbon dioxide extraction — a mixture of carbon dioxide gas and liquid with an increased ability to extract components such as lycopene. This method is faster and better than the traditional method of using organic solvents, which can leave residues.

Shi is currently looking at ways to increase the stability of lycopene. He's also trying to increase the purification and increase its bioavailability (the ability of lycopene to be absorbed by the human body).

He says his research is part of a move by government, the agri-food industry and the health industry to create effective technology for the development of functional foods and nutraceuticals through value-added processing.

In the future, Shi plans to optimize the technology of lycopene extraction from laboratory scale to commercial scale, and extract nutraceuticals from other fruits, vegetables and herbs grown in Canada.

He is collaborating with the Department of Food Science, the Department of Human Biology and Nutritional Sciences and the School of Engineering. His research is sponsored by AAFC, U of G, the Ontario Tomato Research Institute and the Ontario Ministry of Agriculture, Food and Rural Affairs.

*BY BLYTHE MCKAY*
*OFFICE OF RESEARCH*

MAY 9, 2001

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9 **STUDY** shows promise of phosphorus-reducing gene.

**A JOINT EFFORT**

From left, Profs. Jim Dickey, Mark Hurtig and John Runciman and post-doctoral fellow Simon Pearce are collaborating to improve a surgical procedure that repairs damaged joint cartilage. See story on page 9.
PHOTO BY MARTIN SCHWALBE

# NSERC Launches Three Networks

*U of G participants will develop environmentally friendly pest controls*

GUELPH WILL BE PART of a new $6.6-million research effort aimed at reducing the use of pesticides in agriculture and forestry.

The Natural Sciences and Engineering Research Council announced last week that it is investing $21.7 million to launch three new research networks in environmental studies. They will bring together more than 100 researchers and some 200 graduate students and post-doctoral fellows from 25 universities and other organizations. The networks will focus on natural pest-control methods, water quality, climate change and the role of mercury in ecosystems.

U of G is part of the Biocontrol Network, which includes 42 scientists from 14 Canadian universities and seven government agencies. It will be based at the University of Montreal.

"This is the first of its kind in the world," says Prof. Peter Krell, Microbiology, who is spearheading Guelph's role in the project. The team will research diverse areas and gather input from industry, users and the public. "We anticipate being able to develop effective

*Continued on page 10*

# 'Virtual Librarian' Logs On

*McLaughlin is first university library in Canada to offer new service*

IT'S 9:30 P.M. and you haven't started researching the paper that's due in your distance education course the next day. Even worse, you have no way to get to the library tonight. Frantic, you log on to the Internet and call up a search engine. Soon, your computer screen is flooded with everything and anything that has ever been written on your topic. Where to start?

Then you remember. U of G has a new "virtual librarian." You log on to the system, and voilà — a real-life library staff member at your service. You explain your situation, and the staff member responds through an online chat system. He or she sends along advice and ideas and guides you through numerous electronic resources. You heave a big sigh and get down to work.

As of May 7, the above scenario could be reality for 200 to 300 students taking distance education courses from U of G. That's when the McLaughlin Library became the first university library in Canada to "go live" with a virtual library reference service.

U of G librarians and library associates are rotating shifts and taking Internet "calls" from students in four distance education courses, guiding them through electronic resources that can help them in their studies and research. The librarians are available 48 hours a week, split among daytime, evening and weekend hours.

"It's like sitting in the library, having someone over your shoulder showing you what to do," says Jennifer Marvin, an information services liaison librarian who helped spearhead the program. "But you can also teach people how to do things rather than just give them information. That's the most powerful thing."

The program allows users to ask the "virtual librarian" questions through an interactive Web teaching program. It includes a chat-room feature, a Web screen that both the user and librarian can see and a guided tour of Web-based resources. At the end of each session, a transcript of the interaction is e-mailed to the student, including a list of suggested resources and the Web addresses of sites that were reviewed.

U of G acquired the system — which is being used by more than 100 academic libraries in the United States — late last year. It's also being tested by Ryerson University, but Guelph is the first to "go live" with the service, initially targeting students in four distance courses: "Celtic Ireland and Britain Since 1603," "Introduction to Cognitive Psychology," "Food Science" and "Philosophy of the Environment."

Helen Salmon, manager for social science and arts information in the McLaughlin Library, says Guelph wanted to test the program on a high-needs group like distance education learners. Their courses are often Web-based and taken by students who are off campus, sometimes in remote areas. "Over the course of the next year, however, we hope to expand the service to everyone," she says.

Plans also call for eventually collaborating with other Canadian universities using the system.

"The student and faculty learning environment has changed so much," says Salmon. "Students are accessing our resources anytime from anywhere. This is our way of saying: 'OK, we're here, too.'"

Marvin adds that providing such a service was a logical step, given that libraries have become increasingly focused on electronic resources.

"But we haven't been providing people who are using these resources from outside the library with the service they need," she says. "It can be likened to opening the library up with no librarians in it and saying to people: 'Go find what you need.'" The 'virtual librarian' reference software really helps us meet our strategic goals of delivering services to students when and where they need them."

*BY LORI BONA HUNT*

# First Research Chairs Named

*U of G expects to receive support for a total of 35*

COMBATING global antibiotic resistance, safeguarding Canada's rural water supply and expanding biological research in the Arctic are just three research areas being strengthened at U of G with the appointment of its first five Canada Research Chairs.

Three senior professors recognized as leaders in their fields and two younger researchers considered rising stars will receive a total of $5.2 million in research funding.

The senior researchers, receiving $200,000 annually for seven years, are Prof. Paul Hebert, Zoology, for a Chair in Molecular Biodiversity; Prof. Jacek Lipkowski, Chemistry and Biochemistry, for a Chair in Electrochemistry; and Prof. Chris Whitfield, Mirobiology, for a Chair in Molecular Biology. The junior researchers, receiving $100,000 annually for five years, are Prof. Rob de Loë, Geography, for a Chair in Rural Water Management; and Prof. Alejandro Marangoni, Food Science, for a Chair in Food and Soft Materials. For more details of their research, see page 5.

"These awards represent the first of a series of Canada Research Chairs that will have an extremely positive impact on U of G's research climate," says president Mordechai Rozanski. "The investment will allow the University to enhance its current research capability and, in addition, increase its ability to attract new, excellent faculty in the future."

Ottawa launched the chair program last year and plans to invest $900 million over five years to establish 2,000 chairs in Canadian universities, their affiliated research institutes and hospitals. The funds are meant to stop the "brain drain" of Canadian research talent to other countries and to enable Canadian universities to become world-class centres of research excellence by providing them with funds to recruit and retain top-notch faculty.

Over the next five years, U of G is expected to receive funding for a total of 35 chairs, with 10 of them to be established in 2000/2001.

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# BOARD OF GOVERNORS

## *Ontario Universities Hope to Receive Budget Information May 9*

REPORTING ON UNIVERSITY PLANNING, president Mordechai Rozanski informed the April 25 meeting of Board of Governors that Ontario universities hope to receive information about the 2001/2002 provincial operating budget May 9.

Following the government's budget announcement, the University of Guelph will formulate its own budget, the president said.

Guelph would have preferred that the board consider a full 2001/02 budget, he said. Instead, various elements had to be brought forward separately to allow for student input before the end of classes and to enable students to make plans based on tuition fees and residence and food costs for next year.

Rozanski also informed the board that Ottawa had that day announced the first five chairs to be awarded to U of G under the Canada Research Chairs program. (See stories on pages 1 and 5).

### UPDATE ON ELECTRONIC LEARNING, DEAN SEARCHES

Provost Alastair Summerlee gave a detailed presentation on electronic learning at U of G. He told governors that Guelph offers the largest number of distance courses among all Ontario universities and now ranks third in the province in distance enrolments.

U of G's online offerings include more than 80 undergraduate courses; two dozen graduate courses; an MBA in agriculture; an MBA in hospitality, tourism and leadership; and several certificate programs.

Summerlee said the University continues to develop integrated use of electronic learning technologies, to link classrooms electronically and to continue providing faculty, staff and students with hardware requirements and training.

He also updated governors on decanal searches in the College of Arts, the Ontario Agricultural College and the College of Biological Science. Candidates have been identified, and a series of presentations to the University community is under way. Final announcements will be made soon.

The provost also told governors that to prevent the possibility that foot-and-mouth disease could be introduced inadvertently to any of the University's livestock or the Veterinary Teaching Hospital at OVC, the University has formulated a protocol for campus members visiting countries with active foot-and-mouth disease or receiving visitors from those countries (see story on page 10).

### NEW SCHOLARSHIPS TO HONOUR CHANCELLOR

Prof. Rob McLaughlin, vice-president (alumni affairs and development), briefly updated governors on the capital campaign, noting the recent $500,000 gift from the Scottish Studies Foundation for a Chair in Scottish Studies. He added that a special campaign-related celebration in honour of chancellor Lincoln Alexander's 80th birthday is being planned. The celebration will include the launch of the Lincoln Alexander Scholarships, intended to enhance student diversity on campus.

### 2001/2002 ANCILLARY BUDGETS APPROVED

B of G approved the budgets for the University Centre administration, campus parking (see story below), Student Housing Services and Hospitality Services.

In 2001/02, the University Centre is expected to have an operational surplus of $33,000 before capital expenditures of $30,000, for a final surplus of $3,000.

*Continued on page 10*

# New Parking Rates Approved

CHANGES IN PARKING rates approved April 25 by Board of Governors went into effect May 1. The cost of an annual commuting permit has risen $10.40 to $218.40 (plus taxes) a year. Most commuting students will pay $6.93 more for their two semesters on campus. Resident students will now pay $85.76 for two semesters, an increase of $4.08.

Lucie Turner, head of Parking Administration, says that even with the increase, U of G's 2001/2002 commuting rate is considerably lower than rates charged at comparable Ontario universities. The University of Waterloo's rate, for example, is $264, and McMaster's is $376.

Turner notes that the increase will enable Parking Administration to provide additional surveillance systems, improved lighting, emergency phones and other services to enhance personal safety and monitoring of parking lot activity. It will also cover the costs of continued maintenance of parking lots and roadways. Projects this summer include Powerhouse Lane and McGilvray road repairs, major repairs to P.19 west of the Cutten Club and P.26 behind the Food Science Building, and a new crosswalk on South Ring Road and P.31.

In addition, Parking Administration will contribute $200,000 to the University's operating budget goals, she says.

Because of the lateness of this year's budget process and the resulting delay in the issue of parking permits, no fines will be issued for not having a valid permit until May 28, says Turner. For more information, call Parking Administration at Ext. 2118.

# Salary Increases Effective May 1

ANNUAL WAGE adjustments for most U of G employee groups became effective May 1, as per the terms of collective agreements and memorandums of settlement.

The adjustments, which will be reflected in the May 10 pay, apply to the following groups: U of G Staff Association and exempt staff, which are in the third year of their three-year contracts; the Professional Staff Association, the Ontario Nurses' Association and CUPE 1334 trades and maintenance, currently in the second year of two-year contracts; and the University Police Association, the Canadian Union of Operating Engineers and the U of G Food Services Employees Association, which are currently in the second year of three-year contracts.

For information about this year's settlements, employees should consult their collective agreements, which are available on the Human Resources Web site at www.uoguelph.ca/HR/eeagree.htm.


@GUELPH

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UNIVERSITY of GUELPH

NEWS IN BRIEF

### ASSISTANT RESEARCH VP APPOINTED

Prof. Deborah Stacey, Computing and Information Science, has been seconded to serve as assistant vice-president (research infrastructure programs), initially for a one-year period. Stacey will continue the work of Prof. Ross Hallett in providing leadership to the development and submission of proposals for research infrastructure and capacity-building funding from the Canada Foundation for Innovation, Ontario Research and Development Challenge Fund and Ontario Innovation Trust Fund. A PhD graduate of the University of Waterloo, Stacey joined the faculty of Guelph in 1988 and is U of G's project leader in the Shared Hierarchical Academic Research Computing Network.

### ACTING CBS DEAN NAMED

Prof. Anthony Clarke, chair of the Department of Microbiology, has been appointed acting dean of the College of Biological Science, effective July 1.

### PLANT RESEARCH FACILITY OFFICIALLY OPENS MAY 14

U of G's Controlled Environment Systems Research Facility will be officially opened May 14. Headed by Prof. Mike Dixon, Plant Agriculture, the $7.9-million facility is unique in the world in the field of advanced life support. To mark the opening, representatives from several international space agencies, including NASA and the European Space Agency, will be in Guelph May 12 to 17 to discuss the future of advanced life-support research.

### ASSOCIATE DEAN SOUGHT FOR B.SC. PROGRAM

The deans of the College of Biological Science and the College of Physical and Engineering Science seek a faculty member from a department within the B.Sc. program to serve as associate dean with responsibility for the academic administrative aspects of the B.Sc. program. The initial appointment will be for a three-year term, consisting of 60-per-cent release time from the faculty member's home position. Signed nominations or applications for the position should be submitted by May 25 to CBS dean Bob Sheath or CPES dean Peter Tremaine, co-chairs of the selection committee.

### HUMAN RESOURCES PROFESSIONALS GATHER

Human resources staff from universities across Ontario are on campus May 9 to 11 for the annual spring conference of the Association of Ontario University Human Resources Professionals. This year's theme is "An HR Odyssey: Winning in a World That Won't Wait." The conference will feature speakers and round-table discussions on a variety of human resources issues.

# First Auger Award Presented

*Four students honoured for contributions to community, leadership*

THIRD-YEAR gerontology student Beth-Anne Tsourounis is the first recipient of the Andre Auger Citizenship Award. It was established to recognize an undergraduate or graduate student who demonstrates through volunteer efforts a sense of personal responsibility and commitment to the community. The annual award also honours the contributions of Andre Auger during his 27 years as director of the Counselling and Student Resource Centre.

Tsourounis is an executive member of the Gerontology Students' Association and has worked for both the Department of Family Relations and Applied Nutrition and Admission Services to promote the B.A.Sc. program. She is also a member of the gerontology task force participating in discussions about a family relations degree proposed as part of the Guelph-Humber College initiative.

Off campus, Tsourounis works with the Guelph-Wellington Association for Community Living and visits nursing homes in Guelph. She is also the campus co-ordinator for the Best Buddies Canada Program, which pairs student volunteers with individuals in the community who have developmental disabilities.

Tsourounis was one of four students honoured at a recent recognition banquet. The second annual Brian D. Sullivan Student Leadership Award was presented to Jeff Ramlogan, who will graduate this June with a B.Sc. in microbiology. This award recognizes a graduating student who has made significant contributions to student leadership through involvement as an elected or appointed student representative at U of G. Ramlogan served on Board of Governors in 1999/2000.

A new Student Volunteer Connections Volunteerism Award was presented to third-year history student Omar Abdool. This award honours a student who has made outstanding contributions to Guelph and Wellington County by volunteering off campus. Abdool has volunteered more than 200 hours of his time working at the library at the Homewood Health Centre.

The 12th annual Student Leadership Rookie Award went to third-year international development student Louise Kent. This award goes to a student in any semester who, for the first time, has made an active contribution to a club or organization at U of G. Kent was a peer helper with the citizenship education program, was a member of the Peer Helper Advisory Council and was involved in the Citizenship Working Group.

# Dean Candidates to Speak

*Members of University community invited to submit written comments*

TWO CANDIDATES for the position of dean of the Ontario Agricultural College and three candidates for the position of dean of the College of Biological Science will give public presentations on campus during May and early June.

The two short-listed candidates for the position of dean of OAC are Prof. Tom Michaels, acting dean of OAC and a professor in the Department of Plant Agriculture, and Craig Pearson, chief scientist in the agriculture, food and sciences division and greenhouse co-ordinator for the Bureau of Rural Sciences in the Department of Agriculture, Fisheries and Forestry in Canberra, Australia. Michaels will speak May 15 and Pearson will speak May 23, with both presentations beginning at 9 a.m. in Room 1307 of the Thornbrough Building. A question period will follow each session.

The two candidates will also give presentations at OAC's satellite colleges. Michaels will visit Ridgetown May 16, Kemptville May 22 and Alfred May 23. Pearson will visit Ridgetown May 22, Kemptville May 24 and Alfred May 25.

They will also meet with U of G administrators and OAC chairs, directors, faculty, staff, students and alumni. Receptions with alumni are slated for May 14 for Michaels and May 22 for Pearson, with both running from 5:30 to 7 p.m. at Alumni House. To attend, RSVP to Julia Beswick at Ext. 8902 or j.beswick@exec.uoguelph.ca.

The three candidates for the position of CBS dean are Michael Emes, research and graduate dean for biological sciences, George Harrison Professor of Botany and director of the Botany Experimental Grounds at the University of Manchester; Shiva Singh, chair of the genetics program, professor of zoology and professor of medical genetics at the University of Western Ontario; and Jean-Guy Godin, dean of science and professor of biology at Mount Allison University.

The public presentations are slated for May 22 for Emes, May 31 for Singh and June 4 for Godin, all at 9 a.m. in Thornbrough 1307. Question periods will follow.

The candidates will also meet with U of G administrators and CBS chairs, faculty, staff and students.

Copies of the CVs of all five candidates can be viewed in academic offices in their respective colleges or the office of the provost. Tapes of the presentations will be available from Carol Sherman at Ext. 3846.

The two search committees invite written comments on the candidates. These should be submitted to provost Alastair Summerlee by June 6 for the OAC position and by June 14 for the CBS position.

## IN MEMORIAM

# Psychology Prof Founded Women's Studies Program

A ceremony of reflection and celebration of the life of Prof. Joanna Boehnert, Psychology, who died April 26 in a road accident in New Hampshire, will be held May 17 from 2 to 4 p.m. at the Arboretum.

A faculty member at Guelph since 1968 and founder of U of G's women's studies program, Prof. Boehnert was on sabbatical and visiting family in the United States with her husband, retired history professor Gunnar Boehnert, when the accident occurred.

An MA graduate of the University of Iowa and PhD graduate of the University of Toronto, Joanna Boehnert taught at U of T and the Ontario Institute for Studies in Education before joining U of G. Known as a dedicated teacher who took U of G's learning objectives to heart and instilled them in her students, she became renowned for her work in the psychology of women and founded the University's women's studies program in 1979. She served as co-ordinator for the next 14 years.

She also served as a member of the Ontario Confederation of Faculty Associations' Status of Women Committee and as co-ordinator of the Canadian Psychological Association's section on women and psychology.

Prof. Boehnert co-ordinated the Guelph-London semester in 1990 and the Guelph Krakow Semester Committee in 1995. Since 1996, she has chaired the Krakow study-abroad program. She also served as graduate co-ordinator in the Department of Psychology from 1997 to 2000.

In addition to her husband, she is survived by two daughters, Jody and Jennifer.

A memorial fund has been established in Prof. Boehnert's name to create a scholarship in women's studies at U of G and a prize in women's studies at Wilfrid Laurier University. To contribute to the fund, send a cheque payable to: "University of Guelph Re: Joanna Boehnert Memorial Fund" to development officer Tim Mau in the dean's office of the College of Social and Applied Human Sciences.

## PEOPLE

### ROZANSKI ADDRESSES BUSINESS LEADERS

President Mordechai Rozanski addressed more than 80 business leaders, including U of G alumni, at a breakfast April 24 at the National Club in Toronto. The event was hosted by 1967 OAC graduate Tony Arrell, a member of Board of Governors and vice-chair of the capital campaign. Rozanski's talk was titled "A Leader in the Emerging Life-Science Economy" and provided an overview of U of G's history of creating and transferring knowledge, its success in building strategic partnerships and its expertise in animal and plant life sciences.

### ARCHITECTS HONOUR PRINCE

Prof. Cecelia Paine, Landscape Architecture, past president of the Canadian Society of Landscape Architects (CSLA), and the society's current president, Vincent Asselin, presented a certificate of membership to Prince Charles, inducting him as an honorary member of the CSLA, at an April 28 ceremony in Saskatoon. The Prince of Wales was honoured for his commitment to the ideals of the landscape architecture profession. The CSLA has inducted 26 honorary members since 1947, including William Lyon Mackenzie King in 1949.

### FOOD SCIENTIST HELPS RESCUE STRANDED TEENS

Prof. Alejandro Marangoni, Food Science, and a friend recently rescued two teenagers who were trapped on rocks in the middle of rapids in Burleigh Falls, north of Peterborough. Marangoni and Steven Burnett, also of Guelph, were returning from a kayaking trip when they spotted the boys. The teens had capsized while canoeing and were carried more than 500 metres downstream before they grabbed on to rocks. Marangoni and Burnett paddled out to the boys and brought them to shore with the help of area police and fire services.

### CBIE AWARDS LEARNING GRANT FOR STUDY IN ECUADOR

Third-year international development student Jennifer Hutchinson-Sharman is among the first 19 winners of the Canadian Bureau for International Education's (CBIE) international learning grants, designed to encourage young people to study abroad. Hutchinson-Sharman's grant will support her studies in Ecuador. CBIE, a non-governmental association of more than 120 colleges, universities and school boards, received 155 applications for the grants.

### TALK EARNS KUDOS

Chris Murray, a graduate student working with Prof. John Dutcher, Physics, received the award for best student talk at the University/Industry Opportunities in Polymer Physics Workshop held last month at U of G. Organized by Dutcher, the workshop drew more than 100 participants from eight companies and 14 universities and government laboratories.

# Teammates Score in Research Arena

*OVC lab draws impressive funding, generates valuable new knowledge*

When you score a goal in hockey, almost everyone can share the excitement. But find something unexpected in the way mammalian cells control the homologous recombination of chromosomes, and you may be the only one cheering for miles around.

But cheer they do in the OVC pathobiology lab headed by Prof. Mark Baker, where the goals-scored average has been pretty high of late. Finding something that no one else has found before is a real high, says Baker, even if there are a limited number of people who can fully appreciate the significance.

You might say his lab has scored a hat trick recently in terms of recognition in the scientific and medical communities. The first goal came in the form of renewed funding from the Canadian Institutes of Health Research (CIHR) and Natural Sciences and Engineering Research Council (NSERC) that will approach $1 million over the next five years.

The second relates to the publication this month of a paper by Baker and lab technician Erin Birmingham in the prestigious American Society for Microbiology (ASM) journal, *Molecular and Cellular Biology*.

The third goal was scored by Baker's team at the Canadian Society for Immunology meeting in April when their professional colleagues applauded the complex analyses being done at U of G.

Baker also scores his share of on-ice goals during pick-up hockey in the U of G arena. He's manager and captain of the Guelph Maple Leafs Red Team, who face off against the White Team every Wednesday evening.

Hockey or research, this captain stresses the importance of teamwork. He is one of seven people working in the recombination lab at OVC. These scientists share an interest in the molecular mechanisms of recombination and want to discover how it is involved in the control of gene structure and function and in the generation of human diseases, including cancer. They are one of the few research teams in the world that explore the fundamental biological process of homologous recombination.

Teamwork is the key to good research for, clockwise from top left, Patricia Bell, Steven Raynard, Richard McCulloch, Prof. Mark Baker, Leah Read and Erin Birmingham. PHOTO BY MARTIN SCHWALBE

An obscure concept to most of us, this basic process enables changes to take place within the DNA of all living cells and is vitally important in generating genetic diversity, in adaptation and in the evolution of new species. Homologous recombination is also a form of DNA repair that is important during the growth of mammalian cells to prevent an accumulation of mutations that could cause cancer and other diseases.

This is pure research, but there are obvious long-term implications for human medicine through gene therapy and for the growing biotechnology industry, says Baker. Every biotech discovery and application that excites people today had its roots at the very fundamental research level, he says.

Gene targeting is one example. During post-doctoral work at the University of Toronto in the early 1980s, Baker worked with mentor and U of T professor Marc Shulman on a research team that was among the first to successfully develop a technique for gene targeting in mammalian cells. Now it's a routine process in many labs around the world, used to introduce site-specific changes into the chromosomal genes of living cells in an effort to precisely manipulate the genome. This technology permits genes to be modified right in their normal chromosomal environment, affording more precise study of their function.

In applied terms, gene targeting has the potential to aid the development of new strains of plants and animals and may one day serve as an effective form of human gene therapy.

Baker continued his work in mammalian recombination at the National Research Council's Biotechnology Research Institute in Montreal from 1988 to 1990 and launched his recombination lab at OVC when he joined U of G in 1990. Leah Read has worked with him as a lab technician for 10 years; Birmingham, for about four years.

The recombination team also includes current PhD candidates Steven Raynard and Richard McCulloch and M.Sc. student Patricia Bell. Prof. Julang Li completed post-doctoral work in the lab before joining the faculty of the Department of Animal and Poultry Science last summer. And there are almost always two undergraduate students working in the lab on semester projects. This summer, the lab has received funding from NSERC and U of G to hire biomedical sciences student Cara Reith and molecular biology and genetics student Shauna Lee as research assistants.

Baker says it's important to offer research opportunities to undergraduate students. "You have to teach people how to do research — it's not intuitive. You have to teach students how to think about science, how to ask the kinds of questions that most people don't normally think about."

Recombination research requires good analytical skills, tenacity and self-motivation, he says. "We do excellent work, but are relatively unknown to most undergraduates. A lot of our own undergraduate students here at U of G don't appreciate the significance of the medical research being done at this University."

In the major leagues, OVC's recombination lab is well respected. CIHR and NSERC have provided operating funding and fellowship support to Baker's research activities and graduate students over the lab's 11-year lifetime.

"We've developed a unique system for studying the complex processes involved in homologous recombination," says Baker. "Ours is one of a handful of labs worldwide doing this level of investigation."

The paper being published in the ASM journal reports on one of the important new findings by the Guelph team.

"Our results suggest that mammalian cells exert a high level of control over how crossing over takes place between two DNA sequences during homologous recombination," says Baker.

The naturally occurring exchange of genetic information by crossing over was previously considered to happen randomly. But Baker's team has found evidence that animal cells can actually control how DNA exchanges occur, perhaps a deliberate manoeuvre to prevent abnormal chromosome changes and, potentially, large numbers of genetic mutations within a species.

"We are continuing our investigation of the crossing-over process, how mismatches created during recombination are repaired and how homologous recombination normally occurs when there is no crossing over," he says.

Baker's lab is also studying the chromosomal immunoglobulin locus, a region in the mammalian genome that is responsible for the production of antibodies during an immune response. Their evidence suggests that this locus resembles a recombination "hot spot" in that it is capable of supporting a high level of homologous recombination.

"Our understanding of how recombination hot spots function is very limited," he says. "By studying this particular locus, we hope to learn more about the mechanisms that control this activity. We think this knowledge may enlarge our understanding of how antibodies in the body develop the characteristics needed to fight an invading pathogen or what triggers the body's immune system to attack itself in autoimmune diseases like multiple sclerosis, rheumatoid arthritis and lupus. We're looking for a fundamental view of how these processes happen to provide the base understanding from which future applications for health care and industrial uses can grow."

*BY MARY DICKIESON*


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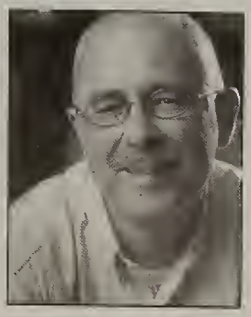
**Prof. Paul Hebert**
Department of Zoology
**Principal area of expertise:** Analysis of genetic diversity in aquatic life

Although strongly interested in zooplankton, Hebert also studies fish and benthic invertebrates. He is currently examining breeding system evolution, the origins of invading species, biodiversity in aquatic settings and the recolonization of Canadian waters after deglaciation. Another of Hebert's research interests is polar science. He is now trying to establish a biological research laboratory in the Arctic.

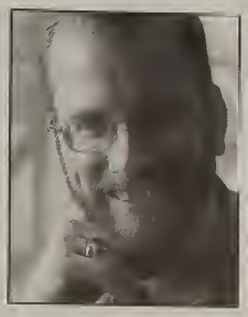
**Prof. Jacek Lipkowski**
Department of Chemistry and Biochemistry
**Principal area of expertise:** Surface analysis and interfacial electrochemistry

Lipkowski studies the processes involved in electrolytic production of metals, corrosion and energy conversion in fuel cells or batteries. He has been recognized by the International Society of Electrochemistry for contributions to electrochemical techniques and received the 1996 Jacques Tacussel Prize for developing an analytical method that may lead to better control of the quality of metal products.



**Prof. Chris Whitfield**
Department of Microbiology
**Principal area of expertise:** Structure and assembly of bacterial surface glycoconjugates and their contribution to bacterial pathogenesis

Whitfield's research focuses on the complex carhohydrates found on the cell surfaces of a variety of pathogenic bacteria such as *Escherichia coli* strains, which cause watery diarrhea in humans and animals and are acquired via contaminated food or drink. Key enzymes are being pursued as potential targets for novel therapeutic approacbes against such bacteria.



**Prof. Rob de Loë**
Department of Geography
**Principal area of expertise:** Resource assessment

De Loë researches decision-making and environmental policy evaluation, principally in water resources management and particularly in rural water management. Key themes in his work include local capacity for water management, water allocation and drought contingency planning and groundwater protection. One of de Loë's goals is to develop geographic information systems that can be used to improve water quality.

**Prof. Alejandro Marangoni**
Department of Food Science and Centre for Food and Soft Materials Science
**Principal area of expertise:** Physical properties of fats and oils

Marangoni work focuses on the study of the physical properties of fats and oils. Some of his work has already led to improved production of fat-containing products such as chocolate and infant formula. He received a 1999 Premier's *Research Excellence Award and the* first Young Scientist Research Award from the American Oil Chemists Society in 2000.

# Credit River Watershed Overflows With Resources

*Collaboration helps meets research needs of University, conservation organization*

A UNIQUE OPPORTUNITY that taps the valuable resources of the Credit River Watershed gives U of G students and faculty the means to attain hands-on experience in education, research and fieldwork.

The University and the Credit Valley Conservation (CVC) — a publicly funded organization whose mandate is the protection and environmental management of the Credit River Watershed — have established a partnership that involves two-way sharing of resources, knowledge and expertise.

"The partnership gives the CVC access to research expertise from the University," says Prof. John Smithers, Geography, an MA and PhD graduate of Guelph. "And it provides research and learning opportunities for U of G graduate and undergraduate students and faculty. It satisfies objectives on both sides of the fence."

Helping to facilitate this partnership are a number of Guelph alumni who work for the CVC, such as 1983 MA graduate Mike Puddister, a senior planner. His personal connection to the U of G faculty has been instrumental in furthering and building new collaborative projects. Together, CVC authorities and Guelph students and faculty have been working on projects such as lake management plans and targeting sites for restoration and water-quality enhancement.

The Credit River Watershed runs from Orangeville through Erin, Caledon, Brampton and Mississauga to Lake Ontario, encompassing a total of 1,000 square kilometres. The Credit River itself supports 1500 km of tributaries, streams and creeks. It's estimated that over the next 25 years, urban land use within the watershed will rise from 16 to 40 per cent. This pressure makes environmental management of this vital resource even more important, says Puddister.

Through the partnership, U of G researchers have an opportunity to focus their work on identified research priorities in local resources management. The partnership also provides hands-on training to undergraduates wanting to learn about ecological systems and the application of research in management. In return, the CVC has access to the environmental data and understanding that results from this research. This helps the organization practise informed management and make the most-educated decisions possible.

The exchange of information also allows CVC staff to explore important issues and areas they normally wouldn't be able to cover because of limited expertise and resources, says Puddister. For example, a group of undergraduates recently developed a system that visually evaluates the appearance of ponds to monitor the performance of new storm-water management facilities being implemented in the Credit Valley Watershed.

"We like to think of the watershed as a laboratory," he says. "We're always looking for new opportunities to work with the University's departments and faculty."

*BY DALE DUNCAN*
*OFFICE OF RESEARCH*

# TSS Institute Targets New Users of WebCT

TEACHING Support Services (TSS) has created a summer program to help instructors who want to develop WebCT courses or incorporate online components into their courses for the fall.

Titled "Design and Develop Your WebCT Course," the summer institute is intended for new users and runs June 4 to 7. It will feature formal presentations, intensive hands-on experience and one-on-one design consultation. The goal is for each participant to leave with a completed, working online course ready for use in the fall.

Registration will be offered on a first-come, first-served basis and is restricted to instructors who are developing a course for the fall. The institute is offered as a complete package, and participants should register only if they are able to attend all sessions of the program.

In response to the growing demand from graduate students for training in new teaching-oriented technologies, TSS has also developed a series of workshops designed to prepare graduate students for roles as teaching assistants and future instructors.

Running throughout May, June and July, the eight-session series will cover such skills as Web-based course development, the design and creation of effective posters and presentations, and effective supervision of online courses.

Detailed descriptions of both the summer institute and the graduate student series are on the TSS Web site at www.tss.uoguelph.ca/workshp/workshops.html. Registration is required and is available on the Web site. If you don't have on-campus access to the Web site or have questions, call Mary Nairn at Ext. 3571.

# Reaching for the Summit

*"For me, the protest in Quebec City provided a chance to be heard"*

By Dale Duncan

When people asked me what I expected to happen at last month's Quebec City protest, I honestly didn't have an answer. On one hand, I thought it would be a highly organized event. I had read about various planned marches, different groups of protesters who were putting together street theatre, and a Peoples Summit that was to feature speakers, artists and musicians from all over the Americas.

On the other hand, media images from Seattle of angry protesters, smashed storefronts and crowded demonstrations filled my mind. After reading through Web site after Web site crammed with advice on how to deal with pepper spray and tear gas, I began to wonder what I was getting myself into. A nervous e-mail from my sister Nancy, who would be attending the event with me, reflected my anxiety: "I kinda feel like I might not be prepared for this . . . at all."

But despite my uncertainty about the unfolding of events, I knew the protest during the Summit of the Americas in Quebec City was something I wanted to be a part of. Concerns over the erosion of the rights of governments to make and enforce rules to protect citizens, the environment and resources — rights that are already threatened by the agreement in Chapter 11 of the North American Free Trade Agreement, on which the Free Trade Area of the Americas (FTAA) is to be based — were the driving force behind my decision to attend. The secrecy behind the negotiations and the lack of public access to information about the summit and the FTAA also influenced my decision to take part.

The lack of public involvement seems even more problematic when coupled with the privileged role of businesses in the process of determining an agreement. Although the corporations couldn't buy their way into the official meetings, they could put up a lot of cash to rub elbows with the heads of state at various "unofficial" corporate-sponsored schmoozing events such as lunches and dinners. The public didn't even get to see the officials get out of their cars and go into the building.

Because of this apparent distance between the decision-makers and the public, for me, the protest in Quebec City provided a chance to be heard. To literally make some noise, grab media attention and direct people's focus to the issue at hand and to the fact that considerable concern exists among a great many citizens. Sometimes it feels as if one person alone doesn't have the power to make a difference. But a crowd has the potential to project a loud and powerful voice. Its effects are not only apparent but also immediate.

Although Quebec City is more than nine hours away, getting there was hardly a problem. Many groups organized transportation and accommodation to the protest for cheap prices that were usually offered on a sliding scale. Although buses were being organized to leave from Guelph, I arranged to leave with my sister from Toronto on buses provided by Toronto Mobilization for Global Justice.

Toronto seemed to be the meeting place for a variety of activists from Canada and the United States. On my bus were a group of high school students from Orillia, members of an anti-globalization group from Burlington, American university students who had driven up from Virginia and a man who had travelled from Brandon, Man. We left at 9:30 p.m. Thursday and arrived at Laval University in Quebec City the following morning at 7 a.m.

ILLUSTRATION BY MARLENA ZUBER

On Friday morning, many people were already walking throughout the streets and exploring the city. They walked along the fence as if they were in a museum, stopping to read the various letters and signs that had been attached along the way. One section was decorated with balloons; another was covered by a swarm of bras. Colouring book pages completed by children, flowers made out of construction paper and signs saying: "Harmonie," "Solidarité" and "Democracy" were also posted, effectively transforming the "wall of shame" from an instrument designed to close out the public to a means for them to communicate and display opposition, opinions and ideas.

Just beyond the bras, balloons and posters, however, were police officers already standing guard in preparation for the day's events. The amount of security administered during the weekend seemed unreal. At one point on Saturday, as we were walking away from the crowds and along a building where a group of police officers had gathered, one of my friends rapped on his self-made drum. An officer stopped him and pointed to his sticks. "Les batons!" the officer shouted, gesturing for my friend to hand them over. Taking the two pieces of wood, the man turned to another officer beside him, who looked at the sticks and nodded in approval. My friend was disarmed and sent on his way.

The extreme security measures definitely exceeded my naive expectations. Before I arrived, I had foolishly assumed that if I kept back far enough from the "front lines," the burning sensation of tear gas could be easily avoided. On Friday, we lost count of the number of times we got caught up in tear gas, and on Saturday, it seemed as though there was a constant haze of this painful gas throughout the city.

You might assume the purpose of such measures would be to control or disperse a crowd that was getting out of hand, yet canisters were shot far out from the fence into the middle of peaceful crowds filled with people doing nothing more than standing, carrying signs, playing drums and occasionally chanting. Like me, many of the protestors were shocked and angry that the "security" measures used by our government appeared to be aimed at halting those who were demonstrating peacefully. "Shame! Shame on you!" screamed one woman passionately towards the police — who weren't even visible from where we'd been standing — as we retreated from the smoke. Closer to the fence, some fearless protesters picked up smoking canisters and threw them back at the police who had just fired them, inviting encouraging cheers from the crowd.

Among the protestors, I always felt safe. When retreating from the tear gas, everyone walked, determined not to create a state of panic in the crowd. Demonstrators offered water to others whose eyes had been stung by the painful smoke. At one point, Nancy and I were unexpectedly caught in a heavy cloud of tear gas. We grabbed on to each other, closed our eyes and began walking in the other direction. I tried breathing through my shirt as much as I could, but the smoke was too thick. Out of nowhere, a fellow protester handed me a cloth soaked with vinegar to lessen the sting in my throat. I didn't even have time to thank him.

The weekend consisted of much more than running from tear gas, however. On Friday, a teach-in of the Second Peoples Summit of the Americas was held. Thousands of people gathered to hear speakers, musicians and artists from across the Americas. Issues discussed included the environment, the rights of indigenous peoples, health care, work and agriculture, as well as various ways to develop alternatives. Throughout the streets, many demonstrators dressed in costumes and carried puppets, drums or creative signs. Some groups performed street theatre such as interpretive dances, while others handed out street chalk and stickers.

Whenever I think back on the weekend, I become more and more astonished by just how incredible the events were. Ingrained in my mind are images of the rows of armed riot police in dark bulletproof suits, the sun shining off the visors of their helmets and their shields. It's ironic that as we retreated from the tear gas, water cannons and rubber bullets, our government was probably hammering out its highly acclaimed democracy clause.

Without question, I know the protest in Quebec did make a difference. Aside from the media coverage, I was overwhelmed by how the protest inspired those who attended to become even more involved. For many of those who came to Quebec, it was the first time they had been a part of a protest or large group movement of any kind. A lot of them came to learn, and many were not already a part of a group or coalition. But on the bus ride home, everyone was sharing stories, passing around newspapers and talking about what they could do next. If nothing else, the protest inspired many people to become involved and learn more, giving truth to the slogan: "It didn't begin in Seattle, and it won't end in Quebec."

It didn't end in Quebec. If anything, it is growing.

*Dale Duncan is a fourth-year psychology student working in the Office of Research.*

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PROFILE

# THE RIGHT EQUATION

## *Math prof wants his students to know they're number one*

BY ALEXANDER WOOLEY

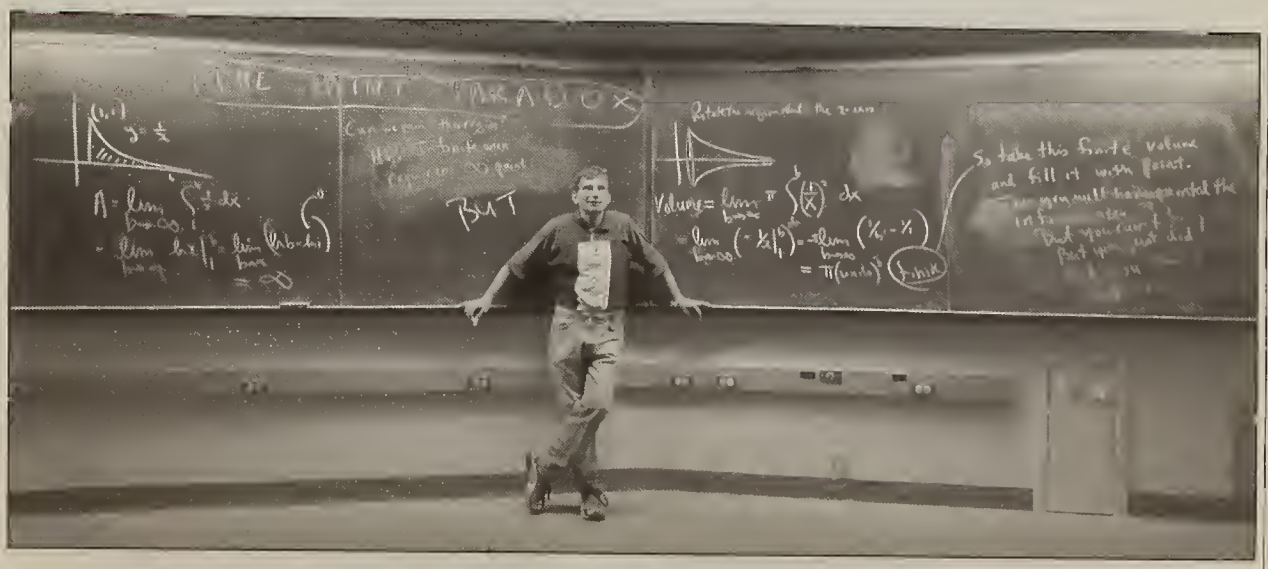


PHOTO BY DEAN PALMER/THE SCENARIO

"WHAT DO YOU CALL 10 to the power of 100?" asks Prof. Jack Weiner, Mathematics and Statistics. On this evening, blank stares emit from some 300 first-year math students in the MacNaughton Building classroom.

"It's called a google," says Weiner. A few giggles about the google from the class. "Know why it's called a google?" He searches the faces of the students, who begin to display more interest. "Because the computer scientist who came up with the term was trying to think of a word that sounded *really big* (Weiner's voice rises). And he was looking for this word and he was at home rocking his baby, and then all of a sudden, bis baby looked at him and said, in baby talk . . . "

"Google," choruses the class, getting it.

Count that as one lesson that won't have to be taught again to this particular group of students. "At the end of one of my classes," says Weiner, "I want students to say: "Is it over already?""

Super-teacher Weiner (1992 U of G Faculty Association Teaching Award, 1993 Ontario Confederation of University Faculty Associations Teaching Award) has devoted his career at U of G to making sure each and every student who passes through his classroom doors understands that one is a prime number, and they happen to be that one. "I do everything in my power to ensure the honest success of every one of my students," he says.

Weiner's bag of tricks is large — some would say infinite. He questions, he cajoles, he raises his voice to catch students' attention, then lowers it so that students strain to catch what he's saying. He prepares special handouts for every class and then is scrummed by students at the end of a session, patiently answering each of their questions in turn. He uses mnemonics and anecdotes to get them to remember, as with one particular mathematical term that he tells students is "our famous beer point: 2,4."

Most of all, he encourages discussion. Singling out one student, he tells the rest of the class: "He's got it. If you don't, get his e-mail address or go over to his room and find out how he did it."

Students love Weiner. An April 5 editorial in the *Ontarion* called him "a mathematical god. . . . If you haven't taken calculus with Dr. Weiner and have an elective hanging around, do yourself a favour." He's also a perennial "Favourite Prof" in the *Maclean's* magazine *Guide to Universities* profile of Guelph.

Walking across campus, Weiner is frequently stopped by students wanting to pick his brain. They know they won't get a pat answer, but probably something that teases them in the right direction. The students love him for it, for his earnest enthusiasm. Take undergraduate Ann Jakabfy's appraisal, for example, which she wrote in an e-mail to Weiner: "I am only in your class because it was my prerequisite for my major, but do you know what? I love it! You are a reason why students pay all that money to go to this school. I never had a teacher inspire me to actually want to go to class. You are one of those few teachers that help students live up to their potential. Thank you for making math fun."

Drama major Paloma Nunez credits Weiner with giving ber the confidence to pursue a minor in mathematics. "I believe anyone could learn calculus from him, even my mother," says Nunez. "He teaches with clarity and precision, he explains things well and he's always enthusiastic about his material. It's clear that he loves what he does."

> *"The blackboard and the overhead, both of which I can write on while talking to the class, are essential to my teaching, because my style is to get students to develop answers and formulae with me. I can't do that on a laptop with PowerPoint, where everything has to be inputted beforehand."*

Another place students interrupt Weiner is where he can usually be found at noon: on a stationary bike in the Athletics Centre. He says he started working out in graduate school because he was beginning to gain weight. From home every morning, he takes long runs with his two dogs, Kelly, a golden retriever, and Denver, a malamute-husky-shepherd-wolf mix.

"I take being fit very seriously," he says. "For one thing, it tops up my energy for class. After running or being on the bike, I'm all ready to teach."

And make no mistake, students in Weiner's class work hard. Seeing some students close their books near the end of class, Weiner waves his hands in the air. "Three minutes left in the class, three minutes! You can't have them; they're my three minutes. We're still learning."

The blackboard is his main prop, his giant painter's palette. He uses it to mix his knowledge with the budding ideas of his students, who call out potential answers to problems-in-motion. Because his style is dependent on participation, Weiner worries about larger classrooms, locations like War Memorial Hall, where students may feel intimidated about taking part in class. His subject is numbers; his students aren't.

He also worries about some teaching technologies like PowerPoint that are everything except interactive.

"*The blackboard and the overhead, both of which I can* write on while talking to the class, are essential to my teaching, because my style is to get students to develop answers and formulae with me. I can't do that on a laptop with PowerPoint, where everything has to be inputted beforehand."

Preparation is key to Weiner's success at teaching. He has a checklist he follows. "I have to understand my learning objectives, I have to prepare carefully and choose examples for class strategically so that students see concepts in action, I have to bring energy and enthusiasm to the classroom, I have to involve the students interactively, and I have to choose homework that reinforces the concepts learned."

Students notice. "The hard work that Prof. Weiner puts into every lecture he gives is clearly noticed and much appreciated," says Jakaby. "He has inspired me to put more solid effort into my work."

Weiner, wbo holds a master's degree in mathematics from the University of Waterloo and a bachelor of education from Queen's, first came to U of G in the mid-1970s. He spent two years on campus as a math instructor and co-ordinator of the Department of Mathematics and Statistics' learning centre, then decided to head back to high school — as a math teacher. After teaching high school for five years, he was invited back to U of G to teach and do liaison work with high school math teachers and students. He's never regretted the decision.

"If I was still at Parkside High School in Dundas, I'd be teaching great kids," he says, "but at the University, I've written a major textbook and educational resource pamphlets, I've spoken at conferences, and I get to challenge students as well as myself every day. As a high school teacher, I had a great job. Teaching at university, I've had a great life."

One high school program Weiner would like to resurrect from the 1980s is his Super Math Club. This was a math enrichment program he developed at U of G for high school students and teachers living within a 200-kilometre radius of campus.

Unlike other math groups, the club was not competitive, he says. "There were no evaluations. Instead, it was an opportunity to involve our community, to perhaps boost enrolment by turning some students on to the math programs at Guelph, but most of all to bring together teachers and students on the path to math learning."

So how many students in *all* has Weiner helped at the high school and university levels? It's a big number, hard to calculate. Leave it at this: more than one, less than a google.

# LETTERS

## HIGHLIGHTING CBAC NOT THE RIGHT APPROACH

I am writing in response to the April 11 article "Canadians Need More Info to Decide About GMOs." The writer is probably quite correct in this assumption, but highlighting the Canadian Biotechnology Advisory Committee (CBAC) is certainly not the correct way to approach this problem.

The CBAC is not a public body; it was appointed by and answers to the Biotechnology Ministerial Co-ordinating Committee, which is composed of ministers of industry, agriculture and agri-food, health, environment, fisheries and oceans, natural resources, and foreign affairs and international trade. The CBAC is housed in the office of the Canadian Biotech Strategy within Industry Canada, the agency charged by the government with promoting biotechnology.

From its inception, the biotech project in Canada has been marked by extreme and unseemly haste, just as the practice of genetic engineering has been lauded for its speed, as if speed were a self-evident good. It is driven by the wishes of corporate biotechnology and often slants its publications to favour this point of view. For example, in the preamble, the CBAC report states that "this genetic engineering is more precise than randomly creating mutations because the basis for the change is understood both at the DNA and the protein level." This partial truth represents a wilfully misleading statement.

Although it is true that the DNA construct that is introduced into the recipient plants is generally well characterized, the actual events that lead to the incorporation of the construct into the genome and its subsequent expression constitute a "black box." At present, it is impossible to control the site of the insertion of the novel DNA or the number of copies of the construct that become incorporated.

Instead of the CBAC, I recommend your readers turn to one or both of two recent reports by two panels of experts: the report of the committee set up by the Royal Society of Canada (www. rsc.ca) and the report of a committee of experts set up by the European Union and the United States, with Nobel Laureate Norman Borlag, pioneer of the Green Revolution, and Gordon Conway, head of the Rockefeller Foundation, as participants (http://europa.eu.int/comm/external_relations/us/biotech/biotech.htm).

Both committees highlighted with references the inadequacy of the testing used to establish the safety of foods derived from genetically engineered organisms and said there should be more testing before we proceed with commercialization. Both committees also recommended labelling, so that consumers would, at the very least, have a choice.

Prof. Ann Oaks
Department of Botany (Retired)

## TRANSLATE REPORT INTO PLAIN ENGLISH

I found the April 11 *@Guelph* article about the report on GMO information pretty tough sledding because of the turgid language and misuse of terminology. The worst example is the one highlighted in the article: "A positive overall predisposition to GM foods is a desirable cognitive state for consumers, not to convince them to use GM foods, but rather to positively predispose them to search for and process specific information about GM foods so that they become neutrally informed."

How can a positive predisposition to something be a cognitive state? A predisposition in favour of something is an emotive or evaluative state having nothing to do with cognition. And what does "neutrally informed" mean? It sounds like it should mean the opposite of positively or negatively informed, but these terms don't make any sense either.

The report also refers to various "heuristics," a term that is supposed to refer to a method of discovery. But what does the report mean when it refers to "the 'don't buy' heuristic"? Your reporter would have done us a greater service if he had tried to translate the report into plain English.

I did, however, gain the impression that the report recommends there should be more information disseminated about GM foods. I agree with this recommendation and look forward to a lively and balanced debate in such publications as *@Guelph*.

Just one question. The report recommends that the CBAC establish "a comprehensive communications program that would be interactive, participatory and proactive and would feature a Web site, television advertising, targeted information kits, press kits and exhibits." Would I be right in assuming that the CBAC plans to produce television advertising that raises concerns about the use of GM foods? If so, I am delighted. But if not, how can the program be described as interactive and participatory?

Prof. William Hughes
Department of Philosophy (Retired)

## A DARK DAY FOR DEMOCRACY

On April 20, I travelled to Quebec City with a busload of students, faculty and staff, under the auspices of CUPE local 3913. After 10 hours on the highway, we reached Quebec City at sunrise Saturday. Throughout the morning, we watched barrages of tear gas saturate the slopes of fortress Quebec.

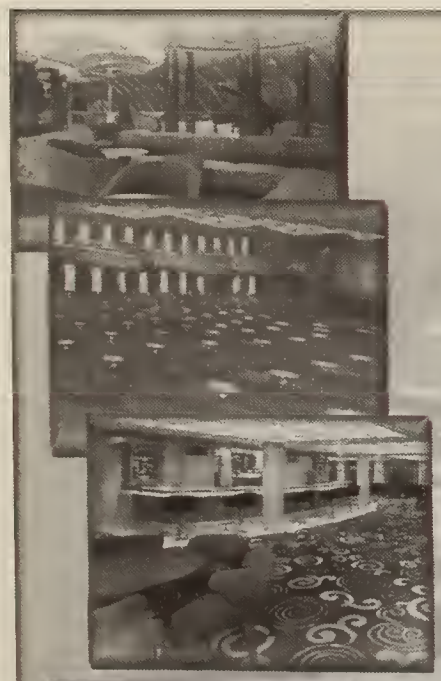
We marched together in Saturday afternoon's spirited and colourful parade, staying many blocks away from the fence. To go any closer would have risked leading the entire demonstration into thick clouds of tear gas.

After the parade, many of us, peaceful but resolute, chose to walk up the Quebec streets through the gas clouds. With my eyes and throat stinging, I came close enough to see the phalanx of troops arrayed behind the fence. This barrier, ostensibly built to protect the Summit delegates, served as a sanctuary from which the police could shower tear gas and rubber bullets indiscriminately. From 50 feet away, I aimed a compact camera at the row of helmeted police. One officer responded by aiming his tear-gas launcher at me, as if to say: "Take one more step and I'll let you have it!"

This was not police "restraint." It was a campaign of intimidation designed to curtail the freedom of citizens to dissent. The enthusiasm, good humour and commitment of the marchers give me much hope, but April 21 was a dark day for Canadian democracy.

I am proud that so many members of our campus community expressed their commitment to justice and democracy by participating in the arduous trip to Quebec City.

Prof. David Josephy
Chemistry and Biochemistry

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# Bent On Success

*Human biologist, vets and engineer work jointly on cartilage grafting technique*

JOINT CARTILAGE REPAIRS are taking a step ahead with a novel process that grafts healthy cartilage on to a joint with damaged or missing cartilage.

Called mosaic arthroplasty (MA), the procedure can repair knees, hips, shoulders, ankles or elbows. MA is being optimized for human use by a team of U of G researchers that includes Prof. John Runciman, Engineering; Prof. Mark Hurtig, Clinical Studies; OVC post-doctoral fellow Simon Pearce; and Prof. Jim Dickey, Human Biology and Nutritional Sciences.

Joint injury, where cartilage is torn and destroyed, is a common problem caused mostly by trauma such as sporting or car accidents, says Hurtig, a large-animal surgeon who's been studying the use of MA in racehorses, dogs and sheep. Cartilage provides cushioning between bones, and without it, pain and swelling can result.

If left untreated, cartilage injury can lead to arthritis later in life. The most common treatments are anti-inflammatory drugs, physiotherapy and surgical removal of debris from the joint. But these methods don't repair cartilage damage like MA does, says Hurtig.

Although MA is still in the development stages and not yet commonly used in humans, it's becoming more popular. It boasts improvements over other grafting techniques because it's a one-step process. It's based on using a patient's own fully formed cartilage from an uninjured area of the joint to repair a damaged part.

Here's how it works. Cylinders of bone topped by normal cartilage, measuring just a few millimetres in diameter, are cut out from a non-load-bearing part of the joint and placed like dowels into holes drilled into the part of the joint that's missing cartilage. The bottom bony parts of the dowels eventually grow into the joint, and the tops of the cylinders form the weight-bearing surface of the joint. This eventually forms a continuous cartilage layer on the joint surface.

Because the replacement tissue comes from the actual patient, MA avoids the risk of an immune response against foreign tissue or of developing an infection from donor tissue.

Runciman is helping the research team to better understand the forces at work among cartilage, bone and the grafts (to optimize implant parameters) and to improve the instruments used by surgeons. He says repairing the joint is like repairing a machine. To effectively fix the joint, surgeons need to understand how all its parts fit and work together. But good tools are also needed to fix "mechanical" joint problems.

The instruments used in MA need to be more surgeon-friendly, says Runciman. For example, they should be weighted and balanced so that they feel comfortable and almost unnoticeable in the surgeon's hand.

"You want to make the instruments at one with the surgeon's hand," he says. "This will enhance the surgeon's performance."

There are still problems with the procedure, however. The cylinders sometimes move in their holes — a painful process that can lead to further cartilage damage. The size and shape of the holes need to be optimized to minimize graft movement. Optimizing the size and distance between cylinders could help maximize coverage of the bone with cartilage while maintaining the strength of the cylinders.

To do this, mechanical parameters — such as strength and elasticity — of the joint's components are being entered into a computer. This information will be used to design software capable of building a virtual model of the joint and simulating what happens during MA. This model can test different graft sizes and shapes.

"With modelling software, there don't have to be as many clinical tests on animals in the operating room," says Runciman. "It gives us direction for future testing."

*BY CORIE LOK*
*OFFICE OF RESEARCH*

# Mouse Study Shows Promise of Phosphorus-Reducing Gene

*Research sets the framework for future work with transgenic farm animals*

THERE'S A GOOD CHANCE that Wayne, U of G's superstar Enviropig, will live up to his potential.

New research by Prof. John Phillips, Molecular Biology and Genetics, Prof. Cecil Forsberg, Microbiology, and graduate student Serguei Golovan reveals that mice models carrying the same gene as Wayne produce manure with less environmentally damaging phosphorus. The findings are published in this month's issue of *Nature Biotechnology*.

"The fact that phosphorus levels were reduced in the mouse models shows that the gene is working," Phillips says, referring to a composite gene that Golovan created to make the transgenic mice and Wayne, the Enviropig. The researchers took an *E. coli* gene that makes the enzyme phytase and a mouse gene that controls the production of a protein secreted in the salivary glands and made a new gene. That composite gene was inserted into the nucleus of a one-celled mouse with a microscopic needle. The gene allows the mouse to make phytase in the salivary gland and secrete it into its saliva, where it is swallowed with food. The phytase releases organic phosphorus in the rodent's gut that can be absorbed by the bloodstream.

The study published in *Nature Biotechnology* examined mice that were genetically modified so their bodies would absorb more phosphorus from their diet. The result was an 11-per-cent reduction in the fecal phosphorus of the transgenic rodents.

"This research shows that this is a promising biological approach to reducing the phosphorus content of manure," Phillips says. In fact, he adds, phosphorus reductions may even be greater in farm animals because mice recycle phosphate, which may make the decrease of phosphorus levels in their manure appear less substantial.

Animal waste is a leading source of phosphorus pollution from agriculture. Phosphorus pollutes surface water and groundwater and promotes the growth of algae in rivers, lakes and streams, reducing available oxygen to fish and aquatic life.

"Our results with these transgenic mouse models suggest that producing farm animals with the same gene is a plausible way to create more sustainable animal agriculture," Forsberg says.

Two years ago, Phillips, Forsberg and Golovan announced they had produced transgenic pigs that carry the same composite gene, and Wayne was introduced to the world and quickly dubbed "The Enviropig."

The scientists have been conducting research trials on the animals and are expected to publish results in the next few months.

The mouse research "is a prelude to what we hope to find with the transgenic pigs," says Phillips. "It also sets the framework for future work involving other transgenic farm animals."

*BY LORI BONA HUNT*


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# Network to Focus on Reducing Pesticides

*Continued from page 1*

biocontrol strategies that the industry can market, that growers can use for crop protection and that the public can accept," he says.

The network will be divided into seven research programs tbat will develop environmentally friendly ways to deal with pests that prey on crops and trees. It will focus on replacing pesticides with natural enemies of insect pests and disease pathogens, most immediately in greenhouses and tree nurseries. Canada's tree nurseries are a major sector of Canada's forest industry, which is worth more than $60 billion annually, and the greenhouse industry is one of the fastest-growing sectors, worth more than $1.5 billion a year.

The network will also emphasize training young researchers to routinely use ecological approaches such as using microbes, fungi and small invertebrates as more environmentally benign biological control agents.

For his part, Krell, along with Basil Arif, an associate graduate faculty member and a member of Sault Ste. Marie's Canadian Forest Service, will evaluate insect viruses at the molecular to ecological levels. They plan to harness the viruses, make them more efficient and study their effect on insect larvae. They will also study how environmental factors influence viral and host population dynamics. In addition, the two will co-chair one of the seven research programs.

Krell will also participate in the development of DNA-based technologies to allow for more rapid analysis of trees and plants' responses to pest stress and other factors.

"This will all be used to help develop ways to screen novel biocontrol agents and products for agricultural pest and pathogen control," he says.

*BY LORI BONA HUNT*

# BOARD OF GOVERNORS

*Continued from page 1*

The Studeot Housing Services budget includes single-student residence fee increases of between 6.4 and 6.9 per cent, depeodiug on type of accommodation. Family housing rents will increase between two and 2.8 per cent for existing tenants. The rent for two-bedroom townhouses in Wellington Woods will, for new tenants only, rise to the same level as rent for two-bedroom townhouses at 78 College Ave. All increases are consistent with provincial rent review guidelines.

Residence meal plans will cost three per cent more, making the price of the full meal plan $1,510 per semester, the fourth lowest price among comparable universities.

In related budget matters, governors also approved U of G's non-tuition compulsory student fees, which were passed by student referendum.

**OTHER MOTIONS**

A number of other motions were approved at the board meeting:

- B of G endorsed transferring to the University $1.5 million from the Heritage Fund's accumulated earnings to April 30, 2000, to support the University's highest-priority strategic capital projects and enable U of G to attract and retain high-quality faculty, staff and students.
- Governors approved an additional allocation of up to $1.6 million from the SuperBuild Growth Fund to the classroom cluster and science complex. The money will enable work to continue on the schematic design and developmeot phases of both projects.
- The board confirmed 2001/02 undergraduate student election results and accepted the appointments of David Hornsby and Hype Quist to the board, each for one-year terms, effective July 1. The board also accepted the election of graduate student Jason Deveau to the board for a one-year term that also begins July 1.

# U of G Develops Protocol on Foot-and-Mouth Disease

FOOT-AND-MOUTH disease (FMD) is a severe and highly contagious disease, primarily affecting swine and cattle, but also sheep, goats, deer and other cloven-hoofed animals. It can be spread easily by contact with infected animals and on clothing.

Should FMD be introduced into U of G livestock or the Veterinary Teaching Hospital (VTH), the consequences would be devastating for teaching and research. To prevent such an outbreak and be proactive, the University has developed a protocol for faculty, staff and students planning trips to the United Kingdom or other FMD-active countries, returning from such countries or entertaining visitors from those areas. The protocol is based on guidelines established by the Canadian Food Inspection Agency, the lead agency for FMD prevention and monitoring in Canada. It can be viewed in full on the Web at www.uoguelph.ca/info/ footand-mouth/shtml.

The protocol discourages travel to any FMD-active country. Travel is particularly discouraged for employees and students working in close proximity to cloven-hoofed animals. Areas of particular concern are the livestock facilities of the agricultural colleges at Ridgetown, Kemptville and Alfred; research stations where livestock are kept; OVC, its associated barns and the VTH; and the Animal Science and Nutrition Building and associated barns.

If a campus community member must travel to an active FMD country, the person must meet with his/her immediate supervisor/department chair/graduate or undergraduate adviser as applicable before the trip to discuss restrictions that will apply on return to U of G.

U of G members returning from an active FMD country and who have been in contact with livestock or in a rural area must remain away from University livestock and the VTH for 14 days and are barred from livestock facilities. Campus members who did not come in contact with livestock abroad, or who are entertaining U.K. visitors, must stay away from U of G livestock for at least seven days. In both of these instances, employees will be assigned alternative work in the same department/unit or elsewhere at the University for the restriction period.

All visitors from an FMD country are also barred from access to all University livestock facilities and the VTH.


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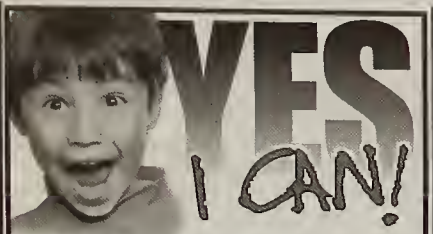


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## FOR SALE

Border collie puppies, registered and tattooed, from working parents, 519-327-8867 after 6 p.m. or warthur@ovc.uoguelph.ca.

Four-level backsplit in Fergus, 3,000 square feet on half acre with continuously fed ponds; 1989 Honda Accord, excellent condition, Ext. 4736 or 843-7738.

Guelph stone cottage with heritage designation, open house May 12 from 1 to 5 p.m., 32 Liverpool St., 416-922-7899.

Small animal playpen, wood on wheels, 42 by 42 by 22 inches, good condition, Ext. 6446 or 767-6057.

Rebounder mini trampoline, good condition; basic NordicTrack cross-country skier trainer, Wayne, 856-9760 or wayne@pr.uoguelpb.ca.

Rockwell/Beaver table saw, nine-inch blade, quiet, belt-driven, powerful one-hp motor, 115/230 volt, cast-iron top and extension, adjustable mitre guide and fence, sturdy steel stand, excellent condition, Roland, 826-6134 evenings.

Infant car seat, 20 to 40 pounds; Fisher-Price folding high chair; Fisher-Price child's side bed rail, all in excellent condition, 763-7548.

1995 Chevy S10 extended cab pickup, 4.3L, V6, well-maintained, certified, 823-0451 or scurrie@lsd.Uoguelph.ca.

Child's T-ball helmet (Rawlings), used only one season, excellent condition, Anita, 767-6313 days or 763-6556 evenings.

Handmade wooden clothes dryers, fold out into three sections, Ext. 6580.

1988 Chevy Silverado pickup, well-maintained body and mechanical, 824-9794 or scurrie@lsd.uoguelph.ca.

Computer, 486 hard drive, four-speed CD-ROM, VGA monitor, 33.6K modem, Windows 95; computer desk, good condition, Shawn, 837-0665 or smatheis@uoguelph.ca.

Golf balls, almost new, Top Flite, MaxFli, Titleist, Dunlop, etc., will deliver, leave message at 763- 5115.

Rival automatic steamer/rice cooker, eight-cup capacity, all-plastic construction, never used, Ext. 6580.

## FOR RENT

Four-bedroom waterfront cottage/house on Bruce Peninsula, south of Stokes Bay, four-piece bath, eight people maximum, propane barbecue, TV/VCR, fireplace, non-smokers, no pets, 824-0667 or katkins@registrar.uoguelph.ca.

Large bedroom/sitting room in finished basement in shared house near Hartsland Zehrs, private bath, laundry, parking, bus stop at door, available Sept. 1, $425 a month, Jen, leave message at 766- 6046.

Furnished holiday home in south of France (Antibes/French Riviera), two bedrooms, two baths, available weekly and monthly, Nicole, 836-6745 or fnmoll@webtv. net.

Upper bedroom with private bath, $400 a month inclusive, or basement room with bath to be shared with one person, $360 a month inclusive, laundry, parking, close to bus stop and Hartsland Zehrs, Grace, Ext. 4021, 766-4638 or gadamska@ovc.uoguelph.ca.

Furnished upper two-bedroom flat, gas stove, parking, walk to downtown and campus, non-smoker, no pets, prefer mature grad student, available immediately until Aug. 31, $625 a month inclusive, 416-535-1428 or mtap@sympatico.ca.

Georgian Bay Island cottage, quiet, peaceful, million-dollar view, Ken, 822-2125 days or 822-7705 evenings.

## WANTED

Two-bedroom apartment needed for September, send e-mail to spghosa@netcom.ca.

Cheap or free furniture and fish tank, 823-5574 or mfagan@uoguelph.ca.

Reasonably priced one- or two-bedroom apartment for student with two cats, James, 836-8510.

## AVAILABLE

Free full-size working refrigerator and end table, Ext. 2622, 822-2248, grchapman@kw.igs.net or gchapman@msnet.mathstat.uoguelph.ca.

Free old wooden fence, free electrical baseboard heaters, Ext. 3094 or 836-6104 evenings.

Classifieds is a free service available to staff, faculty, students, alumni and retirees of the University. Submit items to Linda Graham on Level 4 of the University Centre, fax to 824-7962 or send e-mail to l.graham@exec.uoguelph.ca.


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# EVENTS

## ARBORETUM

The Arboretum Auxiliary's Sunday afternoon walks continue May 20 with "Spring and Migration" and June 3 with "Late Spring Discovery Tour." The walks leave from the Nature Centre at 2 p.m. and are free, with a suggested donation of $3 per person. For more information, call Ext. 2113.

A lilac tree in the Arboretum's Hospice Wellington Lilac Garden will be dedicated in memory of loved ones May 27 at 2 p.m. The community is welcome.

Naturalist Chris Earley leads an all-day workshop on sparrows May 30. It will include a lunchtime hike. Cost is $45. Registration and payment are due May 16. Call Ext. 4110.

Horticulturist Henry Kock leads a botanical history walk through the Arboretum June 4 from 7 to 9 p.m. Cost is $15. Registration and payment are required by May 21.

## ART CENTRE

"Felonious," an exhibition of works by photographer Lori Newdick, a recent MFA graduate of Guelph, opens May 16 at 8 p.m. at the Macdonald Stewart Art Centre and continues to Aug. 3.

Continuing exhibitions at the Macdonald Stewart Art Centre are "Leon Golub: While the Crime Is Blazing: Paintings and Drawings, 1994-1999" until June 10, "Greg Denton's: 'anyone lived . . .'" until June 20, "Contemporary American Prints" until Aug. 3 and "Masterworks From Nunavut" until Aug. 3.

On May 22 at noon, the art centre hosts a brown bag lunch with author Anne McPherson talking about her new publication, *Walking to the Saints: A Little Pilgrimage in France.*

## NOTICES

Mark Bisby, director of programs with the Canadian Institutes of Health Research (CIHR), will give a presentation on CIHR programs and application procedures May 11 from 1:30 to 3 p.m. in MacKinnon117. He will also discuss the role of health researchers from the social sciences and humanities.

Alumni-in-Action will hold its annual general meeting and spring luncheon May 16 at 11:30 a.m. at the Arboretum Centre. Entertainment will be provided by the Speed River Valley Mountain Boys. For tickets, contact Carla Bradshaw at Ext. 6657 or cbradsha@oac.uoguelph.ca.

May 14 is the deadline for applications to the ninth class of the Advanced Agricultural Leadership Program, a two-year executive development opportunity for people actively involved in Ontario's agriculture and food industry. For more information, call 826-4204 or visit the Web site www.aalp.on.ca.

TUG (Team U of G), the University's dragon boat team, is seeking new members to participate in this year's June 1 to 3 event. Previous rowing, canoeing or rafting experience is helpful but not a prerequisite. Approximate participation cost is $45 per person and includes a team shirt. For more information, call Bruce Hill at Ext. 2122 or send e-mail to brucehil@uoguelph.ca.

The Stress Management and High Performance Clinic will offer classes in relaxation and stress management skills beginning May 22 and a better sleep program beginning May 29. For more details, leave a message at Ext. 2662 or visit the Web site www.uoguelph.ca/~ksomers.

## TEACHING SUPPORT

Teaching Support Services, the College of Arts and OVC host the conference "Collaborative Learning: Opportunities and Strategies at the University of Guelph" May 17 from 8 a.m. to 5 p.m. in Peter Clark Hall. Keynote speakers are Stephen Brookfield of the School of Education at the University of St. Thomas and University of Western Ontario English professor Allan Gedalof. Two post-conference workshops are slated for May 18, to be led by Gedalof and Prof. Mark Waldron, Rural Extension Studies. Register online at www.tss.uoguelph.ca/tli.html.

## THESIS DEFENCES

The final examination of MA candidate Jennifer Janes, Psychology, is May 9 at 1 p.m. in MacKinnon 313. The thesis is "Executive Function, Emotion Regulation and Maternal Report of Child Temperament in Children with PDD." The adviser is Prof. Mary Konstantareas.

The final examination of Sheila Hanson, an MA candidate in the Department of History, is May 16 at 9:30 a.m. in MacKinnon 132. The thesis is "Fair Soldiers of the Soul:" Expressions of Gender Ideology Within the Women's Division of the Ontario Farm Service Force." The adviser is Prof. Catharine Wilson.

The final examination of Ildikó Somorjai, an M.Sc. candidate in the Department of Zoology, is June 1 at 2 p.m. in Axelrod 265A. The thesis is "QTL for Fitness Traits in Arctic Char (*Salvelinus alpinus*): Conservation Across Species and Homeologues." The adviser is Prof. Moira Ferguson.

## COMMUNITY EVENTS

OPIRG-Guelph holds its 22nd annual Speed River Cleanup June 2, beginning at 9:30 a.m. at Royal City Park. Afterwards, participants are invited to a free barbecue sponsored by ReMax Realty at McRae House. This will be followed by an ecological bus tour of the local watershed. Free child care is available (call ahead to arrange). To volunteer, call 824-2091 or send e-mail to opirg@uoguelph.ca.

The Waterloo-Wellington Wildflower Society holds its annual sale of native perennials May 19 from 7 a.m. to noon at the Guelph Farmers' Market. Proceeds go towards conservation of natural areas in Canada.

The newly formed Guelph Chamber Orchestra presents a spring concert May 15 at 8 p.m. at the River Run Centre. Led by Simon Irving, the 32-piece ensemble will perform works by Delius, Butterworth, Respighi and Debussy, as well as Mozart's *Concerto for Flute and Harp* and Vivaldi's *Concerto in C for Bassoon.* Admission is $25 general, $20 for seniors and $12 for students. For tickets, call 763-3000.

The Guelph Arts Council is calling for nominations for its 2001 Heritage Awards by May 15. The awards are open to homeowners, organizations, companies and institutions that have developed, restored or preserved heritage properties in the city of Guelph. For more information or to obtain a nomination form, visit the council's office at 147 Wyndham St. N., Suite 404, call 836-3280 or fax to 766-9212.

Victory Public School holds its 40th annual dessert party and fun fair May 31 from 5:30 to 8 p.m. at 135 Exhibition St. The evening will include candy, craft, penny and plant sales, a baked goods table, outdoor games and a silent auction.

The Guelph Concert Band, directed by Colin Clarke, presents "A Latin Fantasy" May 23 at 8 p.m. at the River Run Centre. Admission is $15 general, $12 for students and seniors and $5 for children. For tickets, call 763-3000.

The Guelph Community Arts Tour runs May 11 to 13 and features the work of 29 professional artists and artisans. For more information, call Katrin Wolters at 824-4494 or visit the Web site www.art-in-guelph.com.

OPIRG-Guelph and the Woolwich Arms and Arrow Pub are sponsoring their ninth annual Spring Classic Charity Golf Tournament May 25 at 11 a.m. at Guelph Lakes Golf and Country Club. For more information, call 836-2875.

Parents of the Suzuki String School of Guelph are holding a garage sale May 12 from 8 a.m. to 1 p.m. at the Guelph Youth Music Centre, 75 Cardigan St.

# Earth-Orbiting Seeds Touch Down in Classrooms

*Results of student experiments will help U of G prof study the role plants will play on long-range space missions*

PLANT AGRICULTURE professor Mike Dixon is planting the seeds of deep-space travel in young minds and classrooms across Canada — literally.

Dixon and Canadian astronaut Bob Thirsk have just delivered tomato seeds that travelled into space last fall to schoolchildren in Toronto and Mississauga. The children are joining students from 3,000 other Canadian classrooms in a U of G and Heinz Canada project called Tomatosphere.

Students in grades 3 to 6 are germinating and growing seeds that orbited Earth 171 times with astronaut Marc Garneau and seeds that stayed on Earth to compare germination and seedling vigour. Half of the seeds that went into orbit and half of those that didn't were exposed to a special treatment that used red and infrared light to stimulate growth. Dixon and other researchers want to determine if the red-light treatment will have any influence on tomato seeds exposed to microgravity and cosmic radiation in space.

The students are growing seeds from each category in their experiments and reporting their findings to a special Web site, which also allows classrooms to compare results. Dixon will use the data to study the role plants will play on long-range space missions, such as that to Mars. Currently, space-mission vehicles are able to carry just enough air, food and water to keep crews alive for short missions.

"We're going to Mars in the next 20 years," says Dixon. "The people we'll be training to do the life-support activities required for that mission are in Grade 3 today. As an educator, I believed this was a wonderful opportunity to stimulate long-term continuity."

Dixon, who has been studying ways to sustain life in space for more than 15 years, has also just received $15,000 from Heinz Canada to help fund his ongoing space researcb. His work focuses on plants' ability to provide food and establish good air quality in controlled environments such as space shuttles.

"Tomatoes will certainly form part of a life-support system for long missions into deep space," he says.

Thirsk, who was aboard the space orbiter *Columbia* for a 17-day mission in 1996 and was part of NASA's Mission Control Team at the Cape Kennedy Space Station during Garneau's mission, adds: "Who knows, on long-range missions to Mars and Jupiter, each spaceship may be equipped not only with a Canadaarm2 but a tomato patch as well."

Tomatosphere is sponsored by Agriculture and Agri-Food Canada, Heinz Canada, U of G, the Centre for Research in Earth and Space Technology, Ontario Agri-Food Education Inc., the Canadian Space Agency and the Canadian Space Resource Centre.

*BY LORI BONA HUNT*


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| June 20 | June 11 |

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## IT'S BEEN A WHEEL EXPERIENCE

Until recently, Michael Boterman of Independent Study/@access hadn't been on a bicycle since he was a kid. Now, he's gearing up for not one, but two long-distance bike rides this summer to help raise money for multiple sclerosis and for the Toronto People With AIDS Foundation. See the story on page 8.

PHOTO BY MARTIN SCHWALBE

# New Frontier in Space Program Opens

*Facility will allow researchers to study contribution of plants in sustaining life in space*

LIFE ON MARS is one step closer to reality. U of G officially opened its Controlled Environment Systems Research Facility May 14 and launched a new element of the country's space program — sustaining life in deep space.

"Now that Canada's robotic arms are doing their jobs in orbit, advanced life support for long missions into deep space is the next phase," says project leader Prof. Mike Dixon, Plant Agriculture. He's been studying how to sustain life in space for more than 15 years.

"We're going to Mars in the next 20 years," says Dixon. "This facility will allow the University to promote new and emerging technologies and participate in partnerships exploring space technology."

Representatives from several international space agencies, including the Canadian Space Agency, National Aeronautics and Space Administration, European Space Agency and National Space Development Agency of Japan, attended the building's opening.

The $7.9-million facility is the most sophisticated of its kind in the world in the field of advanced life support. It has the highest level of Canadian technology in controlled environment systems research and will eventually contain 14 of the plant science world's most sophisticated hypobaric (reduced pressure) chambers. These chambers will allow researchers to study the contributions of plants in supporting human life during long-term space missions, such as to Mars.

Dixon says it's certain that future human exploration of space must be based on a biological life-support system. Currently, space-mission vehicles are able to carry just enough air, food and water to keep crews alive for short missions. During long missions, however, the crew's needs can be met only by developing renewable life-support systems based on plants and micro-organisms.

Plants are the most efficient means of sustaining life in space. They provide food, add oxygen to the atmosphere, remove carbon dioxide and help eliminate polluting byproducts. They also provide water and help recycle waste.

"We believe that to choose our future, we must lead the way," says president Mordechai Rozanski. "This unique facility definitely puts us at the forefront of the frontiers of science. It also allows us to foster collaborative interactions among

*Continued on page 2*

# Study Answers Mystery Deep in Earth

*Bacterium thrives without oxygen by feeding on iron*

FOR THE FIRST TIME, researchers — including U of G microbiology professor Terry Beveridge — have a direct measurement of how life manages to survive miles beneath the Earth's surface without complex food and air.

The research published in the May 18 issue of *Science* magazine focuses on the microscopic bacterium *Shewanella*, which can thrive in an environment devoid of oxygen. The study showed that the bacterium actually adheres to iron oxide minerals in order to feed on iron, trapping electrons for metabolic energy.

"This bacterium is literally eating minerals to stay alive," says Beveridge, who conducted the study with Steven Lower and Michael Hochella of Virginia Polytechnic Institute and State University.

The bacterium even recognizes its preferred food source, producing special proteins on its surface when it makes contact with iron-containing minerals. In turn, these proteins "grip" the iron source with incredible force, allowing the bacterium to have its fill.

"This type of recognition between a micro-organism and a

*Continued on page 10*

# Singer, Veterinarian Will Receive Honorary Degrees

*Convocation ceremonies run June 5 to 8 on Johnston Green*

CANADIAN SINGER Burton Cummings and Peter Doherty, the first veterinarian to win a Nobel Prize, will receive honorary degrees from U of G during summer convocation ceremonies June 5 to 8. Some 1,887 degrees and diplomas will also be awarded.

In addition, Prof. Bill Beamish, Zoology, will be named University professor emeritus, and Andre Auger, former director of U of G's Counselling and Student Resource Centre, will be recognized as an honorary fellow of the University.

Hank Vander Pol, a U of G alumnus and president and CEO of Rol-Land Farms Inc. of Blenheim, will receive the Lincoln Alexander Medal of Distinguished Service.

All convocation ceremonies will be held on Johnston Green. In case of rain or excessive heat, ceremonies will be held in the gold arena at the Mitchell Athletics Centre.

Cummings will receive an honorary doctorate of music and will address students graduating from the College of Arts June 5 at 10 a.m. He is internationally recognized as an outstanding Canadian singer and songwriter and won numerous Juno Awards in the 1960s, '70s and '80s. The Winnipeg-born singer is best known as the vocalist for the band The Guess Who. He spent 10 years with the group, recording 20 singles, including the hits *American Woman* and *These Eyes*, and 33 albums. He left the group to launch a solo career in 1975. Cummings was inducted into the Juno Hall of Fame in 1987. The Guess Who reunited again this year and launched a coast-to-coast Canadian tour.

Doherty will receive an honorary doctorate of science June 7 at 2:30 p.m. during the ceremony for the Ontario Veterinary College and College of Physical and Engineering Science. In 1996, Doherty became the first veterinarian to receive a Nobel Prize. He and colleague Rolf Zinkernagel were recognized for their pioneering research to determine how the immune system

*Continued on page 2*

# J.T. Powell Tree Dedication

**A tree dedication will take place on Saturday, June 16, at 3 p.m. outside the W.F. Mitchell Athletics Centre in honour of J.T. Powell, first director of Human Kinetics.**

**The dedication will be followed by a wine & cheese reception in the J.T. Powell building, hosted by the HK/HB and CBS Alumni Associations.**



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# New Plant Facility to Foster International Collaboration

*Continued from page 1*

Prof. Mike Dixon says U of G's new Controlled Environment Systems Research Facility will allow the University to promote new and emerging technologies and participate in partnerships exploring space technology.
PHOTO BY MARTIN SCHWALBE

European, American and Canadian specialists, helping us create and transfer new knowledge.

"Guelph students will train at this centre to become horticultural mission specialists — space gardeners, if you will. They could be on that first trip to our nearest planetary neighbour in as little as 20 years."

The new facility and bypobaric chambers will allow researchers to rigorously monitor the effect of growing plants at various pressures to sustain life in orbit. They will also support research on indoor air quality, recycled water, waste remediation, selection and breeding of plants in controlled environments, and the development and testing of new sensor technologies.

The research facility was funded by the Canada Foundation for Innovation; Ontario Innovation Trust; Ontario Ministry of Agriculture, Food and Rural Affairs; the Centre for Research in Earth and Space Technology, an Ontario Centre of Excellence; and numerous industrial supporters.

*BY LORI BONA HUNT*

# 1,887 Students to Graduate

*Continued from page 1*

recognizes virus-infected cells. His work has significantly influenced current thinking in the area of immunology, especially approaches to vaccination. Doherty is a scientist in the Department of Immunology at St. Jude Children's Research Hospital in Memphis, Tenn.

Beamish will be honoured June 7 at 10 a.m. during the ceremony for the College of Biological Science. He joined U of G's Department of Zoology in 1965, serving as chair from 1974 to 1979. Beamish, who retired last August, is known for his research on understanding the metabolism and bioenergetics of fish in the natural environment.

Auger and Van der Pol will be recognized June 8 at 2:30 p.m. during the ceremony for the Ontario Agricultural College.

Auger, who is also an artist, is being recognized for his contributions to the University, especially in the areas of student counselling and student services.

Vander Pol, a 1965 graduate of OAC, is the second person to receive the Lincoln Alexander Award, which recognizes outstanding contributions to the University. He is a member of the University's Board of Governors and was one of the three founding directors of GUARD. He has also served on numerous University-related committees, campaigns and councils.

Convocation ceremonies for the College of Social and Applied Human Sciences will be held June 6 at 10 a.m. and 2:30 p.m., and the ceremony for the OAC diploma program will be June 5 at 2:30 p.m.


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UNIVERSITY of GUELPH

NEWS IN BRIEF

### STUDENT HOUSING DIRECTOR NAMED

Heather Lane, dean of students at Victoria College, University of Toronto, has been named director of Student Housing Services, effective Aug. 20. She succeeds Allan McInnis, who retires Aug. 31 after 28 years at U of G. Lane holds a B.A.Sc. and M.Sc. from Guelph and a PhD in higher education administration from Bowling Green State University. At Victoria College, she is responsible for all aspects of student life outside the classroom, including residence programming, advising student governments, orientation and judicial and student activities. She is also secretary/treasurer of the Canadian Association of College and University Student Services.

### MANCINI TO HEAD CENTRE

Bruno Mancini has been appointed director of the Counselling and Student Development Centre, effective May 1. This is a new centre, created out of a renewal exercise in Student Affairs. As director, Mancini will be responsible for students with disabilities, for personal and psychological counselling and for the Campus Ministry. He first joined the University in 1979.

### FOUR NOMINATED FOR STAFF SEAT ON B OF G

Four members of the University community have been nominated for a staff seat on Board of Governors. They are Sue Bennett of the OAC dean's office/library, Virginia Gray of the Office of Open Learning, John Lynch of Laboratory Services and Michael Mandeville of Physical Resources. Mail ballots for the election were distributed earlier this month and must be returned by May 31 to the Board Secretariat on Level 4 of the University Centre. Results will be considered by B of G at its June 14 meeting.

### NEW SCHEDULE OF DATES EFFECTIVE SUMMER 2002

At the April meeting of Senate, a new schedule of dates was adopted, which included the elimination of the special schedule classes. This new schedule of dates does not come into effect until summer 2002, so special schedule classes will continue for both the fall 2001 and winter 2002 semesters. In planning for the new schedule, departments with special needs such as laboratory assignment, work groups and lab orientation are invited to contact the office of the associate vice-president (academic) for assistance. Send e-mail to m.mancuso@exec.uoguelph.ca.

### COU RELEASES REPORTS

The Council of Ontario Universities recently published its biennial report for 1998 to 2000 and has just released *Facts and Figures 2000: A Compendium of Statistics on Ontario Universities*. For copies, call 416-979-2165, Ext. 236, or visit the Web site www.cou. on.ca.

# A View From the Bottom

*Engineer's imaging technology brings Pearl Harbor battleship into focus*

Prof. Bob Dony's images of the *USS Arizona* are featured in the June issue of *Natianal Geagraphic*.
PHOTO BY MARTIN SCHWALBE

THIS MONTH, on the big screen and on the newsstands, millions of Americans will revisit events that 60 years ago propelled the United States into the Second World War and altered the course of the 20th century.

*Pearl Harbor* is the title of a feature film starring Ben Affleck and the subject of an extensive feature article in the June issue of *National Geographic* magazine — an article with an important U of G connection.

For many, the most tragic event of that fateful Sunday morning was the sinking of the *USS Arizona*, a battleship that had been lying peacefully at its moorings before Japanese planes dove from the sky. By morning's end, the *Arizona* lay at the bottom of the harbour, with more than 1,000 American sailors permanently entombed within its decks.

A lasting image from Dec. 7, 1941, is of the *Arizona* settling to the bottom, smoking and ablaze, her superstructure mangled, twisted and listing unsteadily forward.

Now, millions of readers in the United States and worldwide can see the *Arizona* again for the first time in 60 years, thanks to imaging technology developed by Prof. Bob Dony, Engineering.

The *National Geographic* article includes a two-page spread with a clear detailed picture of the entire forward section of the *Arizona*. "No one has ever before seen the battleship this way," says Dony.

The main reason no one has seen the wreck like this is because, although the ship sits at a relatively shallow depth, the water is so clouded that visibility is just a few feet. Getting an image of the wreck in either small or large scale was impossible until Dony developed technology to make it possible.

In a sense, he began working on the *Arizona* nine years ago. In 1992, *National Geographic* explorer Dan Nelson approached Imaging Research Inc. in St. Catharines with a problem. Nelson was referred to Dony, who had worked at Imaging Research at one time.

Dony confesses that when the two first met, he had never heard of Nelson, but soon learned that he had written a feature for *National Geographic* about two War of 1812 warships he had discovered at the bottom of Lake Ontario, the *Hamilton* and the *Scourge*.

Nelson's conundrum was this: instead of the grainy, hard-to-make-out shipwreck images most of us are familiar with, was it possible to take photos of ships in their entirety lying at the bottom of the sea, regardless of the visibility?

That's the question Nelson posed to Dony, an expert on video imaging and signal processing. Dony eventually developed a computer-based program that processes thousands of separate images to produce a single high-resolution composite photo. The digital-video-software process that produces a measurably accurate picture is called photogrammetry.

"The beauty of the system we developed," he says, "is that once you've put together the images, you can zoom into a closeup of one particular spot on a wreck, down to one-sixteenth of an inch in scale, or pull back to show the entire ship rendered in perfect detail."

*With Nelson as his connection*, Dony got the call last September to go to Hawaii. When he arrived, he realized the challenge that faced him. Brisk tides, silt, algae, plankton and oil still leaking from the December 1941 attack meant that visibility around the wreck was less than 10 feet. Exactly what the Dony and Nelson technique was designed for.

Over the next several days, Dony had divers from the National Park Service swim slowly in careful rows over the wreck at a distance of six feet, filming the ship with digital video cameras. He then took the images gathered and "knit" them together on his laptop.

Although the hours were long, he confesses that the location served as compensation: his usual workplace was a balcony at the Ilikai Hotel near Waikiki Beach. "Under those circumstances, I didn't mind the fact that on most nights, we worked until past midnight."

*BY ALEXANDER WOOLEY*

# OGS Awards to 135 Students

THERE WILL BE more graduate scholarship winners on campus next fall, and they will be a little richer than their predecessors.

Ontario Graduate Scholarships (OGS) will go to 135 Guelph students for the 2001/2002 academic year. The award is now worth $15,000, up from $12,000 in previous years. The province has also increased the number of awards handed out to 2,000 from 1,300.

The extra funding is good news for students, but carries a price tag for the University. The province is no longer picking up the whole tab for the awards; instead, it requires the University to contribute one-third of the total, which works out to $5,000 per scholarship.

This year's OGS application success rate of 35 per cent is slightly higher than in 2000, when 102 Guelph students won awards.

Guelph's success rate is also up for Social Sciences and Humanities Research Council of Canada doctoral fellowships. Ten students have been awarded the fellowships, which represents a 56-per-cent application success rate, the highest U of G has achieved in five years. (Last year's rate was 33 per cent.) The award is worth $17,700 annually for up to four years of study at the PhD level, an increase of $1,080 per year.

PEOPLE

### TREVORS NAMED FELLOW

Prof. Jack Trevors, Environmental Biology, has been named a Fellow of the American Academy of Microbiology. His research has contributed to an understanding of the survival and activities of bacteria in the environment, which has significant implications in understanding bacterial activities in the biosphere. This work has provided new knowledge and applications of biochemical and molecular methods in the study of environmental microbiology, with an emphasis on understanding bacterial survival/activities under less than optimal environmental conditions. Trevors, who is also an adjunct professor at the University of Waterloo, joined U of G in 1982.

### ZOOLOGIST HONOURED FOR CYBERNATURAL SOFTWARE

Prof. Paul Hebert, Zoology, has won the 2001 Richards Education Award from the Federation of Ontario Naturalists for his CyberNatural software initiative. The award goes to those who help people understand the natural world and become supporters of conservation and environmental protection. CyberNatural produces educational CD-ROMs and Web sites for schools and the public.

### CROSS-COUNTRY TREK SUPPORTS CANCER SOCIETY

Three U of G students, all members of the First Response Team, are cycling across Canada from May to August to raise money for the Canadian Cancer Society. Nadia Salvaterra, Scott Kubacki and Adam Bonnycastle headed out from Vancouver May 7 and, over the next three months, will ride 7,577 kilometres through all 10 provinces, finishing in St. John's, Nfld. To keep people abreast of their progress, the students have set up a Web site at www.bikeforcancer.ca.

### STUDENTS EARN KUDOS

Two U of G students were among the top winners of the eighth annual public-speaking competition sponsored by the Canadian Association of Diploma in Agriculture Programs (CADAP). Second prize went to Milveen Eke, a diploma student at the main U of G campus. Third prize went to Janet Patenaude of Kemptville College. CADAP also awarded one of its two annual scholarships to U of G student Emily Ball. The award will enable Ball to participate in an exchange program at Olds College.

### FAREWELL RECEPTION SET

A farewell reception will be held June 1 for Darlene Frampton, director of communications and public affairs, who is leaving the University after more than four years to join the Ontario Trillium Foundation. The reception begins at 4 p.m. in the University Club. Anyone wishing to attend and/or participate in a tribute should contact Piuccia Hohenadel at Ext. 6542 or p.hohenadel@exec.uoguelph.ca.

*Annual support from the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) helps U of G maintain its position as one of the most research-intensive universities in Canada. On these pages, @Guelph lists U of G recipients of recently announced NSERC research, equipment and major facilities access grants, and SSHRC grants.*

# 2001/2002 NSERC Grants

Prof. Hussein Abdullah, Engineering, "An Intelligent Rehabilitation Robotic System for Limb Injury Recovery."

Prof. France-Isabelle Auzanneau, Chemistry and Biochemistry, "Large-Scale Rapid Purification of Carbohydrate Building Blocks by HPLC" and "Tumour-Associated Carbohydrates and Vaccine Design."

Prof. Jnanankur Bag, Molecular Biology and Genetics, "Regulation of Troponin-C Gene Expression."

Prof. Mark Baker, Pathobiology, "Molecular Requirements for Immunoglobulin Gene Function."

Prof. Marica Bakovic, Human Biology and Nutritional Sciences, "Functional Expression and Transcriptional Regulation of the Human CTL1 Choline Transporter."

Prof. Nicholas Bernier, Zoology, "Microscope and Image Analysis System for the Cellular Localization and Quantification of Gene Expression" (with Profs. Glen Van Der Kraak, Teresa Crease and Patricia Wright) and "Stress and the Neuroendocrine Control of Food Intake and Growth in Fish."

Prof. Terry Beveridge, Microbiology, "Cellular, Chemical and Physical Traits of Bacterial Biofilms and Their Ability to Promote Fine-Grain Mineral Development."

Prof. Greg Boland, Environmental Biology, "Replacement of 34-Year-Old Superspeed Centrifuge and Rotors" (with Profs. Bob Hall, John Sutton, Jack Trevors, Hung Lee, Tom Hsiang and Paul Goodwin).

Prof. Michael Brookfield, Land Resource Science, "Paleoenvironments of Ordovician Carbonates in Ontario."

Prof. Bob Brooks, Physics, "Spectroscopic Studies of Ions, Atoms and Simple Molecules."

Prof. Ron Brooks, Zoology, "Automated Telemetry System."

Prof. Nigel Bunce, Chemistry and Biochemistry, "Toxicological and Electrochemical Studies of Aromatic Compounds."

Prof. Jack Callaghan, Human Biology and Nutritional Sciences, "Cumulative Loading as a Source of Low Back Pain."

Prof. David Calvert, Computing and Information Science, "Parallel Systems Analysis for Neural Computation."

Prof. John Cant, Animal and Poultry Science, "Milk Synthesis During Amino Acid Imbalance in Lactating Ruminants."

Prof. Teresa Crease, Zoology, "Molecular Evolution of Ribosomal DNA in Daphnia."

Prof. Anne Croy, Biomedical Sciences, "Analysis of Mechanisms Regulating Uterine Natural Killer Cell Lineage Commitment and Functions."

Prof. Roy Danzmann, Zoology, "Low-Temperature Freezer" (with Prof. Moira Ferguson).

Prof. Gerarda Darlington, Mathematics and Statistics, "Statistical Methods in Health Studies."

Prof. Robin Davidson-Arnott, Geography, "The Effect of Moisture and Fetch Distance on Aeolian Sediment Transport on Beaches and Foredunes."

Prof. Kees de Lange, Animal and Poultry Science, "Effect of Non-Protein Feed Constituents on Amino Acid Utilization in the Growing Pig."

Prof. Anthony Desmond, Mathematics and Statistics, "Estimating Functions and Predictive Inference With Applications in Life Data Analysis and Geostatistics."

Prof. Jim Dickey, Human Biology and Nutritional Sciences, "Upgrade to Six Degree of Freedom Mechanical Testing Machine" (with Prof. Jack Callaghan).

Prof. Bob Dony, Engineering, "Image and Signal Processing Using Mixture of Principal Components Networks."

Prof. Grant Edwards, Engineering, "The Measurement and Modelling of the Air-Surface Exchange of Particulate Matter."

Prof. David Elrick, Land Resource Science, "Transport Phenomena in Natural Porous Media."

Prof. David Evans, Molecular Biology and Genetics, "Spectrophotometer and Thermal Cycler."

Prof. Ming Fan, Animal and Poultry Science, "Metabolic Fate of Amino Acids in Proliferating, Differentiating and Developing Porcine Enterocytes."

Prof. Moira Ferguson, "uQuant Microplate Spectrophotometer" (with Prof. Roy Danzmann).

Prof. Aggie Fernando, Pathobiology, "Developmental Molecular Biology and Host Cell-Parasite Interaction in *Eimeria spp.* of the Domestic Fowl."

Prof. Cecil Forsberg, Microbiology, "Components for a 2-D Electrophoresis System" (with Profs. Roselynn Stevenson, Anthony Clarke, Lucy Mutharia and Stephen Seah).

Prof. Jinzhong Fu, Zoology, "Field DNA Analysis for a Biodiversity Survey" and "Molecular Phylogenetics and Biodiversity Conservation of Asian Amphibians and Reptiles."

Prof. Doug Goff, Food Science, "Food Materials at Sub-Zero Temperatures."

Prof. Paul Goodwin, Environmental Biology, "Molecular Basis of Plant-Microbe Interactions."

Prof. Andy Gordon, Environmental Biology, "Productivity and Nutrient Cycling in Black Spruce and Jack Pine Plantations."

Prof. Terry Graham, Human Biology and Nutritional Sciences, "Metabolic Cart for Indirect Calorimetry of Humans" (with Profs. Bruce Holub, Lawrence Spriet, Mike Lindinger, David Dyck and Kelly Meckling-Gill).

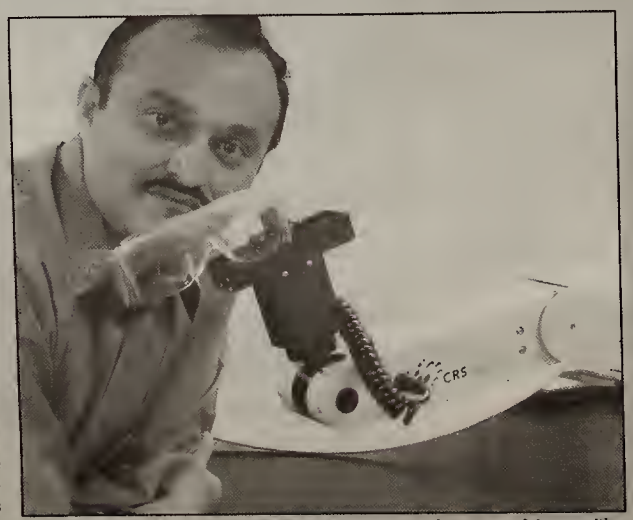
Prof. John Greenwood, Botany, "Vacuolar Cysteine Proteinases and

# Robotics Could Help Rehabilitate Injured Limbs

STROKES, TRAFFIC ACCIDENTS, sports mishaps — they can all cause injuries requiring physical therapy and rehabilitation. One of the better ways of treating these injuries, particularly when limbs are involved, is through physical therapy requiring patients to repeat a motion or task.

Prof. Hussein Abdullah, Engineering, an expert in robotics and mechatronics, says that although intensive physical treatment does strengthen impaired limbs, some of these programs can take a long time to bring about improvement. There is also no accurate way of determining if a particular therapy or motion is the most effective course of action.

"The current conventional physical and occupational therapy in treatment centres is subjective, labour-intensive and costly, particularly for the health-care system," says Abdullah. "This is where I believe robotics could make a significant contribution. We are trying to develop robotics that someday may be able to perform some of these repetitive treatments, reduce the need for human attendants and bring down costs."



Prof. Hussein Abdullah believes robotics could one day perform some of the repetitive treatments involved in physical rehabilitation. PHOTO BY DEAN PALMER/THE SCENARIO

Abdullah has just received $30,000 over two years from the Natural Sciences and Engineering Research Council for a research project titled "An Intelligent Rehabilitation Robotic System for Limb Injury Recovery."

With the funding, he hopes to begin building a mechanical system that can be used by people with weakened limbs to improve limbic activity. The system would help these patients achieve continual motion. Through an "intelligent" built-in monitoring technique, the system would also keep track of the patient's muscular and other reactions to the treatment program.

"This feedback would then be a great tool for the doctor or physical therapist and the patient in determining, on a week-by-week basis, if the treatment is working or if alterations are needed," Abdullah says.

He stresses that his work on the robotics system is only beginning. As part of developing these robots, he needs to do a considerable amount of research, particularly in the area of safety.

"When people use robotics on a factory floor, the robot working area is usually totally secured so none of the operators interfere with the robot's space. In this case, it's different because the robot will be in direct touch with the actual user. So we need to ensure the system is safe, flexible and able to ease interaction between man and machine."

Abdullah adds that the system would not supplant physical therapists or completely take over their work. "It will just be a very useful aid for the therapist in performing the repetitive element of the training program and keeping track of patient progress."

*BY SUZANNE SOTO*

Programmed Cell Death in *Vicia faba*."

Prof. Carlton Gyles, Pathobiology, "Shiga Toxin-Producing *Escherichia coli* in Livestock."

Prof. Ann Hahnel, Biomedical Sciences, "Signalling Molecules Important in Pre-implantation and Pre-attachment Development."

Prof. Chris Hall, Environmental Biology, "Molecular and Biochemical Characterization of Auxinic Herbicide-Resistant Wild Mustard."

Prof. Rebecca Hallett, Environmental Biology, "Ecology of Dipteran-Host Plant Interactions."

Prof. George Harauz, Molecular Biology and Genetics, "High-Performance Liquid Chromatography Unit" (with Prof. David Evans).

Prof. Paul Hebert, Zoology, "Molecular Biodiversity of Aquatic Animals."

Prof. John Holbrook, Mathematics and Statistics, "Matrix Analysis and Tomography."

Prof. Tom Hsiang, Environmental Biology, "Biology of Low-Temperature Fungi."

Prof. Bill James, Engineering, "Optimal Complexity and User Performance for Web-Based Models of Urban Water Systems."

Prof. Gabriel Karl, Physics, "Research in Theoretical Subatomic Physics."

Prof. Peter Kim, Mathematics and Statistics, "Statistical Inverse Problems on Riemannian Manifolds."

Prof. Gordon Kirby, Biomedical Sciences, "Regulation of Cyp2a5 by Altered Redox and ER Stress."

Prof. Jim Kirkland, Human Biology and Nutritional Sciences, "The Effect of Niacin Status on Brain Cyclic ADP-Ribose Metabolism and Neural Function."

Prof. John Klironomos, Botany, "Functional Diversity Among Arbuscular Mycorrhizae."

Prof. Herbert Kunze, Mathematics and Statistics, "Fractal-Based Approximation Methods in Inverse Problems and Image/Data Compression."

Prof. Doug Larson, Botany, "Ecology of Cliff Ecosystems."

Prof. Ray Lu, Molecular Biology and Genetics, "Gene Regulation Associated With Herpesvirus-Cell Interaction."

Prof. Gerry Mackie, Zoology, "Traits of Unionid Species as Predictors of Conservation Status."

Prof. Bonnie Mallard, Pathobiology, "Genetic Regulation of Immune Responsiveness and Disease Resistance During the Peripartum Period of Dairy Cattle."

Prof. Dev Mangroo, Chemistry and Biochemistry, "Mechanism of Protein Initiation Without Formylation of the Initiator Methionyl-tRNA."

Prof. Alejandro Marangoni, Food Science, "The Influence of Microstructure on the Rheological Properties of Fat Crystal Networks."

Prof. Harvey Marmurek, Psychology, "Identification Units in Visual Word Processing."

Prof. Stephen Marshall, Environmental Biology, "Biosystematics of Sphaeroceridae and Related Diptera."

Prof. Brian McBride, Animal and Poultry Science, "Nutritional Regulation of Gastrointestinal Growth."

Prof. Ray McBride, Land Resource Science, "Pedotechnological Characterization of Ontario Soils."

Prof. Kelly Meckling-Gill, Human Biology and Nutritional Sciences, "Beta Counter" (with Profs. Jim Kirkland and Marica Bakovic).

Prof. Dan Meegan, Psychology, "Eye Tracking Equipment Shared by Two New Laboratories" (with Prof. Lana Trick) and "Shared Mechanisms for Cognition and Motor Control."

Prof. Barry Micallef, Plant Agriculture, "The Role of Diel C/N Transport and Metabolism in Controlling Plant Growth and Development."

Prof. Robert Mullen, Botany, "Confocal Microscopy System" (with Profs. Larry Peterson, Alan Wildeman, John Greenwood, Glen Van Der Kraak, David Evans and Allan King).

Prof. Coral Murrant, Human Biology and Nutritional Sciences, "Intravital Microscopy of Skeletal Muscle Microvascular Function" (with Prof. Mike Lindinger) and "Regulation of Peripheral Vascular Function."

Prof Éva Nagy, Pathobiology, "Ultracentrifuge Rotors" (with Profs. John Prescott, Patricia Shewen, Jeff Caswell and Dongwan Yoo and Denys DeCatanzaro of McMaster University) and "Biology of Avian Adenoviruses."

Prof. Elisabeth Nicol, Physics, "Theoretical Investigations in Superconductivity."

Prof. David Noakes, Zoology, "Ontogeny and Social Behaviour of Fishes."

Prof. Michele Oliver, Engineering, "Quantification of Dynamics Forces During Heavy-Equipment Joystick Use."

Prof. Hoshang Pesotan, Mathematics and Statistics, "Algebraic and Combinatorial Aspects of Factorial Design."

Prof. James Petrik, Biomedical Sciences, "The Role of the Insulin-Like Growth Factors in Follicular Development and Formation of the Corpus Luteum."

Prof. John Prescott, Pathobiology, "Virulence and Immunity in *Rhodococcus equi* Infections."

Prof. Richard Protz, Land Resource Science, "Systematic Quantitative Analyses of Genetic Features Within the Pedosphere."

Prof. Marcel Schlaf, Chemistry and Biochemistry, "Chemo and Regioselective Transition Metal Catalyzed Transformations of Monosaccharides."

Prof. Heidi Schraft, Food Science, "Biofilm Formation by Food-Borne Micro-organisms."

Prof. Adrian Schwan, Chemistry and Biochemistry, "Studies of Organosulphur Compounds."

Prof. Stephen Seah, Microbiology, "Characterization of Enzymes Involved in the Degradation of Polychlorinated Biphenyls" and "Temperature-Controlled UV-Visible Spectrophotometer for Enzyme Kinetic Assays."

Prof. Jim Stevens, Physics, "The Study of Molecular Relaxations and Ionic Conduction in Polymer-Salt/Acid Electrolytes With Industrial Applications."

Prof. Judith Strommer, Plant Agriculture, "Genetic Regulation of Anthocyanin Production in *Vitis vinifera*."

Prof. Carl Svensson, Physics, "A 4-pi Positron Array and Fast Tape System for Beta Decay Studies at ISAC" (with John Cameron, James Waddington, John Macdonald, Pierre Bricault and Gordon Ball) and "Isospin Symmetry Breaking in Superallowed Fermi Beta Decays."

Prof. William Tam, Chemistry and Biochemistry, "Inert Atmosphere Glove Box System" and "Novel Reactions of Bicyclic Alkenes."

Prof. Jeff Thomason, Biomedical Sciences, "Mechanical Optimization in Mammalian Supporting Tissues and Structures" and "Portable High-Speed Acquisition of Strain and Acclerometry Data" (with Prof. Jim Dickey).

Prof. Peter Tremaine, Chemistry and Biochemistry, "Aqueous Electrolytes and Non-Electrolytes Under Hydrothermal Conditions."

Prof. Lana Trick, Psychology, "Age Differences in Individuation, Selection and Tracking of Multiple Objects" and "Portable Computers for Testing Children and Senior Adults Off Campus."

Prof. Claudia Wagner-Riddle, Land Resource Science, "Mitigation of Greenhouse Gas Emissions From Agriculture."

Prof. Jon Warland, Land Resource Science, "Development of New Micrometeorological Flux Measurement Techniques."

Prof. Nick Westwood, Chemistry and Biochemistry, "Photoionization and Absorption Methods for the Investigation of Unstable Molecules and Radicals."

Prof. Chris Whitfield, Microbiology, "Structure and Function of Bacterial Glycosyl Transferases Enzymes."

Prof. Bruce Wilkie, Pathobiology, "Genetic Control of Immune Response and Disease Resistance in Pigs."

Prof. Mark Wineberg, Computing and Information Science, "The Behaviour of the Shifting Balance Genetic Algorithm in Dynamic Environments."

Prof. Janet Wood, Microbiology, "Liquid Scintillation Counting System" (with Profs. Joseph Lam, Chris Whitfield and Anthony Clarke) and "Solution Calibration Equipment: Vapour Pressure Osmometer and Conductivity Meter."

Prof. Yang Xiang, Computing and Information Science, "Dynamic Multi-Agent Inference and Learning Belief Networks in Difficult Domains" and "Intelligent Decision Support System Laboratory."

# Study to Shed Light on Women's Musical History

WOMEN HAVE BEEN involved with music — through singing, performing, composing — probably since man — and woman — first began banging sticks on stones. Unfortunately, while men's musical achievements have been documented in minute detail, the historical record on women's advancement of music remains somewhat sketchy.

"Music history tends to be the story of men's accomplishments," says Prof. Mary Cyr, director of the School of Fine Art and Music. "Women have certainly contributed to the field, but through performance rather than composition. As a result, this contribution has either been ignored or simply lost to future generations because it could not be preserved."

Cyr hopes to shed more light on the subject — and on the work of one particular female early baroque French composer — through research she is about to undertake with funding from the Social Sciences and Humanities Research Council (SSHRC). The agency has awarded her $34,841 over three years for a project titled "The Cantatas and Instrumental Music of Elizabeth-Claude Jacquet de la Guerre."

Born in 1665, Jacquet de la Guerre came from a long line of musicians. Her uncles were well-known instrument makers and her father was the first organist at the church in Ile Saint-Louis, where the family lived. She first appeared at the court of Louis XIV at Versailles at the age of five, captivating her listeners with her melodious voice and her virtuoso harpsichord performances.

"When she got older, she took the unusual step of becoming a composer and was quite well-known for that," says Cyr. "In her day, women were not expected to compose music. They could perform it, but usually lacked the means to be educated to become composers. Jacquet De la Guerre, however, was the first woman in France to write an opera."

Unfortunately, Cyr adds, Jacquet de la Guerre's music — much of which is quite good — isn't well-known today because most of it is sitting in libraries in Paris. With the SSHRC grant, Cyr plans to unearth some of these trio sonatas, cantatas and other vocal music. She will also publish them in a new scholarly edition with commentary on the original sources and advice on performing the music.

Prof. Mary Cyr hopes to one day stage some of the compositions of 17th-century harpsichordist Elizabeth-Claude Jacquet de la Guerre.
PHOTO BY DEAN PALMER/THE SCENARIO

A musician and performer herself, Cyr also hopes to eventually stage some of Jacquet de la Guerre's compositions, in collaboration with colleagues at the University of Western Ontario.

"I think that anyone who enjoys listening to baroque music will find something new and rather special in the music of this accomplished and groundbreaking female composer."

*BY SUZANNE SOTO*

# SSHRC Grants

Prof. Bram Cadsy, Economics, "Ongoing Research on the Significance of Free-Riding Behaviour."

Prof. Mary Cyr, Fine Art and Music, "The Cantatas and Instrumental Music of Elizabeth-Claude Jacquet de la Guerre."

Prof. Rob de Loë, Geography, "Water Allocation: A Comparative Assessment."

Prof. Mary Ann Evans, Psychology, "Social Anxiety and Coping in Children."

Prof. Michael Hoy, Economics, "Inequality and Asymmetric Information: Theoretical Issues and Applications to Public Policy."

Prof. Mary Konstantareas, Psychology, "Dimensions of Temperament in Children With Pervasive Developmental Disorder: Do They Predict Parental Adaptation?"

Prof. Barbara Morrongiello, Psychology, "Determinants of Young Children's In-Home Injuries and Maternal Injury-Prevention and Safety-Education Practices."

Prof. Danny O'Quinn, Literatures and Performance Studies in English, "Staging Governance: Comedy, Coloniality and the Regulation of Desire, 1750-1830."

Prof. Jane Sprott, Sociology and Anthropology, "School Violence in Canada."

Prof. Dan Yarmey, Psychology, "Eyewitness and Earwitness Testimony."

# HUMANITIES IN NEED OF BROADER, DEEPER BASE

*"Liberal education as currently practised in our universities is not 'liberal' enough."*

BY CONSTANCE ROOKE

*Editor's note: Constance Rooke is president of the University of Winnipeg and former associate vice-president (academic) of U of G. This is an excerpt from an address she gave at a Social Sciences and Humanities Research Council conference at the University of Toronto and is reprinted from the U of T* Bulletin.

ILLUSTRATION BY SARA TYSON

WE ARE, to some degree, guilty as charged of "structures" — departments, degree programs, etc. — that are largely geared to replicating the professoriate. We may have enacted in a too literal and prescriptive (and therefore counter-productive) manner William Wordsworth's poetic faith, and I quote: "What we have loved/Others will love, and we will teach them how."

When one takes into account the proportion of our students who pursue graduate study in humanities and social science disciplines — between 14 and 17 per cent take master's degrees and only three per cent do a PhD — the status quo seems questionable. It appears we are concentrating too large a share of our "design" energy and our resources on a minority of students. If this educational track (a high degree of specialization at the undergraduate level) is not, in fact, optimal for the majority of students, shouldn't we be asking ourselves what is optimal for them?

The problem is compounded by the fact that although specialization is prefaced — for the sake of "breadth" — by half a dozen introductory courses in an array of disciplines, those courses are too often focused on preparing students for advanced work in the discipline (learning the jargon and methodology it is believed they will need as specialists), even though five out of six students will go on to specialize in some other discipline.

The issue is not only one of numbers. The public and our funding bodies also regard the preparation of those other students (the majority who enter the workforce directly or pursue other professional/vocational training) as intrinsically more important than the preparation of those who are bound for the "ivory tower." It is clear that the public and our funding bodies are preoccupied with the relationship of education and the economy, with instrumentalist goals. I make this point only to recall the obvious temper of our times. We cannot ignore it. We do not have to accept it. Indeed, we must resist the reduction of education to its vocational and economic value. But we must respond on both fronts. It is both foolhardy and unfair to our students to do otherwise.

Fortunately, we do not have to choose between what David Bentley has called "humanities for the sake of the humanities" (the enrichment of consciousness) and the role of the humanities with respect to producing the communication skills, critical thinking, etc., that are of interest to business. We can make both claims — the pragmatic and the pure. And both ends can be better served by paying more attention — and attention of a somewhat different kind — to education in the humanities for students who will not go on to specialize in the humanities.

The world of work and the human spirit (overlapping categories, I would suggest) will both be strengthened if more people are led to care about the humanities. I am assuming here that the love of learning in the humanities and the acquisition of transferable skills develop best in tandem. The force of this claim is diminished when the humanities are too narrowly construed as a guild or profession.

I am obviously not suggesting that we abandon preparation for graduate study in our disciplines. But I think we should ask ourselves whether we are not asking these students as well to specialize too much, too soon. I believe we are. I think a broader, deeper base would be better for the professoriate of the future.

A shift of this kind would, of course, require that we adjust the expectations of our graduate programs — not as to standards, but as to the level of concentration required at point of entry. I would go further: I believe our graduate programs often foster an excessively narrow course of study within the discipline, thus compounding narrowness created at the undergraduate level and perpetuating it. I would modify both in the interest of producing professors in the humanities who will have a better chance of generating student interest in the humanities, and a better chance of establishing an essential public role for the humanities.

I do not believe that highly specialized research in the humanities would wither under these reforms; I think it would actually be strengthened. A broader base can provide the context in which powerful links are made, strengthening a very particularized edifice internally and providing the "surround" that helps establish its importance. It can also help create the ability and the will to communicate more clearly to a wider audience.

The argument for education in the humanities is most effectively — and, I think, most appropriately — positioned within the argument for liberal education. If we stake our claim within the more inclusive territory of liberal education, and can establish that as the best possible base for professional studies and vocational training and the changing world of work, we can become "central" again as an essential part of the centre. (I hope I have made clear that this instrumental claim is not the only one I would make.) We should also not mistake the centre of the university circle for the whole or be seen (in our efforts to defend that ground) to disparage the rest.

I do not believe that historical arguments for liberal arts as the centre of the academy can succeed. Science and social science and the humanities must occupy that centre together and be declared by us as occupying it together. Liberal education can, I think, be widely acknowledged as "central," but only if we demonstrate its value more clearly and only if we do not attempt to devalue the rest.

We can establish the centrality of liberal education — and the need to support it adequately — only if we demonstrate clearly that liberal education delivers on its promises. The development of transferable skills (not the only promise, but a critical one) should be pursued more intentionally; we should not assume it to be an inevitable byproduct of disciplinary study. We should be looking at things like "skills transcripts" and exit-testing to assess and certify levels of attainment. And we should look at curriculum in a more co-operative, integrated, "horizontal" way, across courses and across departments, to ensure as far as possible that all the necessary skills and capacities are being developed in all our students.

Another of the promises of liberal education is that it offers a broad intellectual base. But I must say that in defending liberal education, I often experience some dissonance between that breadth and the reality of what happens in our universities. Specialists may tend to associate "depth" with intellectual rigour and sophistication (higher-level thinking, greater understanding) and "breadth" with superficiality. If there is only so much butter and we try to cover the whole loaf, the bread will have to be very thinly spread. But in intellectual matters, the situation is somewhat different: a broader view (of the discipline and beyond the discipline) can also make it possible to penetrate more deeply. My own view is that liberal education as currently practised in our universities is not "liberal" enough. It is too specialized — because we think this degree of specialization is good for students and because we think it's good for us.

I think we underestimate both our own ability and our students' ability to bring intellectual rigour to courses that aren't designed for specialists. We move students quickly into specialization because we think that will stretch them intellectually as nothing else can. But we have also designed a highly specialized curriculum because universities are largely made up of professors with quite particularized intellectual passions. Most of us prefer to teach specialized courses in our own research areas at the upper level; that's where we feel most capable, most appreciated by students and most intellectually alive.

What I am suggesting is that we should both require more wide-ranging study and design more carefully more courses for non-specialists that are aimed at a higher level of understanding, many of which integrate perspectives from science, social science and the humanities. This would not be easy, but I think it would be a good thing for students and faculty — and for the reputation of liberal education.

I also have a concern about two forces that may drive and shape interdisciplinary (as well as disciplinary) courses and programs in ways that are not optimal for students: the research agendas and ideological agendas of faculty. Clearly, the convergence of interdisciplinary research and interdisciplinary education is an excellent thing, but only to the extent that educational priorities are not skewed by the priorities of a research agenda. I believe that ideological agendas affecting interdisciplinary study are a legitimate force in universities; I reject an ideal of value-free "objectivity" in the professoriate.

At the same time, I am concerned that common cause on political objectives plays too great a role in the creation and design of some interdisciplinary courses and programs. Again, my concern is that interdisciplinary courses and programs should be designed for students.

PROFILE

# A Balancing Act

## *Juggling job, school and family is all in a day's work*

BY SUZANNE SOTO

IT SEEMS THAT SUPERWOMAN — she who ran the company while earning multiple degrees at night, entertaining lavishly on weekends, sewing her own slipcovers and being a perfect wife and mother — faded into oblivion about three years ago. She has since been replaced with a much more sensible role model — a woman who doesn't frantically try to do it all herself but seeks help and strives for a healthy balance, both at work and at home.

Lynne Mitchell, a U of G staff member, graduate student, wife and mother to three young children, would certainly fall into the second category. Although she holds down a full-time job, is earning a PhD part time and is still nursing year-old twin boys, she doesn't pretend it's easy. She's also not afraid to admit it can be exhausting.

"Many nights, I've been up at midnight, then at two, four and five in the morning with the twins," she says. "I'm usually up at 5:30 and at work by seven, so on those days, I do get very tired."

Fortunately, she adds, she has a supportive husband and a flexible, interesting job that she loves, which makes the load much easier to carry. Mitchell is the study-abroad and exchange manager at the Centre for International Programs (CIP), a position she acquired through a rather circuitous path.

Surrounding Lynne Mitchell are her husband, Jun; sons, Benjarong and Samaht; and daughter, Jarin.

PHOTO BY DEAN PALMER/THE SCENARIO

Originally from Hamilton, she came to U of G in 1982 to earn a degree in agriculture. During her studies, she ended up in Jamaica on a field trip led by rural extension studies professor Jim Shute.

"That was my very first trip abroad, and I thought it was great," she says. "When I came back, I was sold on the whole idea of international travel."

With her undergraduate degree in hand, Mitchell volunteered with CUSO, the Canadian overseas development agency, and went to Thailand to work for the Thai government promoting plant protection with natural pesticides. Two years later, in 1990, she returned to Guelph to do a master's degree in rural extension studies under Shute's supervision. Her master's research took her back to Thailand, where, this time, she married one of her co-workers in the plant protection office, Junlapong Pintana.

"I joke that I married Jun because I like Thai food so much and he was an excellent cook — and still is."

Back in Canada with her new husband, Mitchell completed her master's degree in 1992. During her studies, she had worked part time on campus organizing conferences and workshops on international development. As the University began to develop international exchange programs, she was asked to oversee this work, and this is what she does now . . . under the supervision of Shute, now the director of CIP.

Mitchell's job is to assist U of G students who decide to go overseas as part of their studies. The University sends about 100 students a year on overseas exchanges and hosts a similar number. That number, however, doesn't include the other 300 or so students who take part in the University's semester-abroad programs, field trips and independent research in other countries.

She says her involvement with students begins from the moment they become interested in an overseas trip. Her office contacts the exchange institutions, nominates the students to go, gets them accepted and then prepares them for their big adventure.

"One of our main tasks is to ensure that students departing on those trips are prepared and know what they need to know to be safe, happy and have the best experience they can abroad."

As part of this process, her office prepared the first-ever workbook for university students travelling abroad. It's a step-by-step guide that provides pre-travel checklists, tips and other important travel information. Since the book's development a few years ago, other Ontario universities have produced their own workbooks based on the U of G model, says Mitchell. A generic version of the book — titled *Ready, Set, Go* — has also been printed and has sold almost 2,000 copies across Canada.

For students who can't find all the answers they need in the book, there's Mitchell, who carries a cell phone at all times in case someone overseas needs her help. Students also contact her via e-mail, and she says it's not unusual for her to receive 20 or 30 e-mail messages overnight from all over the world.

This theme of internationalism is repeated at home, where Pintana looks after their three children — a daughter, Jarin, 4, and the twins, Benjarong and Samaht — during the day and runs his own Thai cuisine catering business at night.

"Someone will have a dinner party for 15, and Jun will bring all the food and cook it there, where people can watch and ask questions," Mitchell explains. "He has educated a lot of people in Guelph about lemon grass and lime leaves. It's also been a great way for him to meet people."

Running this small but thriving business means her husband doesn't get much "down time," but neither does Mitchell, who three years ago decided to pursue her dream of earning a PhD in rural agriculture at U of G.

"This is what I do for me — it's my time," she says. "It has been stressful at times as it's meant having papers due and all that, but I really enjoy it because I get to use my brain in a different way. I like being in classes and critically looking at ideas and discussing them with other students and professors." Her ultimate goal, she adds, is to teach.

But that's still a bit off in the future and will depend on where life's paths take Mitchell and her husband. In the meantime, she'll continue juggling her work, home life and academics — on about six hours' sleep a night.

"I could be at work until 10 p.m. every night, but right now, I can't do that. At the same time, I haven't been able to help my husband at home at times because I've had a paper due. So, it's always a fine balancing act. Of course, I'm not unusual in trying to balance things. Single parents, students — there are lots of us out there going to work, studying and looking after family. Like them, I'm just doing the best I can."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# The Cycle of Life

*Independent Study staff member is gearing up for two fund-raising bike rides this summer*

THEY SAY THAT ONCE you learn to ride a bicycle, you never forget. That's good news for Michael Boterman, a staff member in Independent Study (IS)/*@access* who, until recently, hadn't been on a bike since he was a kid. That's all changed since he found himself signing up for not one, but two fund-raising bicycle rides this summer.

It all started when a colleague in IS suggested that her officemates form a team and participate in a 75-kilometre ride for multiple sclerosis in Niagara Falls at the end of August. Although horses have been Boterman's preferred mode of recreational riding for many years, he agreed to join the team, figuring there'd be plenty of time to get back in the bicycle saddle again in time for the MS ride.

The stakes got a little higher, however, when a friend of Boterman's who rides in the annual Friends for Life Bike Rally, a 660-km trip from Toronto to Montreal to raise funds for the Toronto People With AIDS (PWA) Foundation, suggested he participate in that ride as well. The six-day rally begins July 29, so before he knew it, Boterman, who doesn't even own a bicycle, was hitting the road on borrowed wheels, in serious training for the gruelling ride that lies ahead.

His current regimen includes riding 40 kilometres every other day, biking to the University from his home in Rockwood a couple of times a week and making longer-distance treks on weekends. He also works out twice a week with weights, under the guidance of a personal trainer. Over the next few weeks, he'll be picking up the pace until he's eventually riding up to 50 or 60 km a day.

Needless to say, Boterman has had to abandon his horseback riding for awhile. But he still manages to squeeze in some time for his dog and for the occasional part-time work he does at a restaurant in Milton and as a cater waiter in Kitchener.

His determination to go the distance for the Friends for Life Bike Rally reflects not only his love of a challenge but also a personal interest in the cause it supports. Seventeen years ago, he was diagnosed with the human immunodeficiency virus (HIV). Today, he shows no symptoms of the virus, thanks to a daily cocktail of three drugs, complementary therapies such as Vitamin C and ginseng, exercise, and regular visits to a massage therapist and chiropractor.

In a way, says Boterman, his participation in the bike rally is an investment in his own future. "There may come a time someday when I have to draw on the resources this ride supports."

Since 1987, PWA Toronto has been promoting the dignity and self-sufficiency of men, women and children living with HIV/AIDS. The organization provides services such as advocacy, medication coverage, financial aid, assistance with affordable housing, treatment resources and outreach programs in schools, agencies, media, hospitals and community groups.

PWA Toronto raised more than $162,000 through the bike rally last year and hopes to raise more than $500,000 this year, half through corporate sponsorships and half through individual donations.

About 130 riders will make the trek to Montreal, pedalling about 110 km a day along Lake Ontario and the St. Lawrence River and camping overnight along the way. A crew of volunteers will accompany the riders, providing meals, carrying equipment between camping spots and organizing activities and entertainment.

Participants will arrive in Montreal in time to join in the city's Divers-Cité gay pride celebrations.

To participate in the rally, each rider is asked to generate a minimum of $2,000 in donations. So far, Boterman has raised about half that amount. Anyone interested in making a contribution to his effort can cal him at Ext. 3913 or send e-mail to mboterma@access.uoguelph. ca.

For more information about the Friends for Life Bike Rally, visit the Web site www.bikerally.org.

*BY BARBARA CHANCE*

# S@GE Camp Welcomes Science Fiction Writer

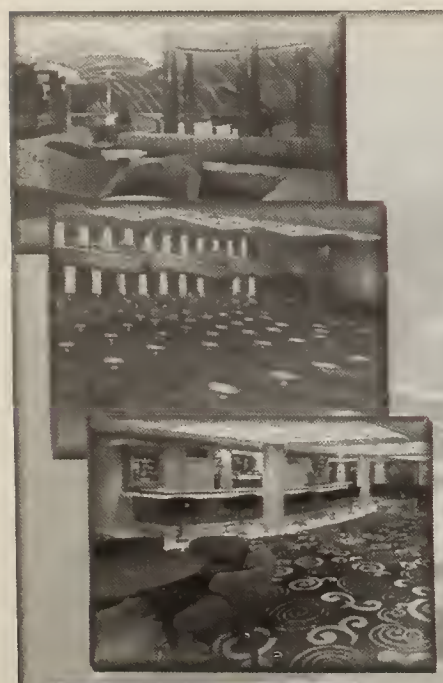
*Close to 1,000 Grade 7 and 8 students attend annual camp*

AWARD-WINNING science fiction writer Robert Sawyer is at Guelph this month, teaching students enrolled in U of G's popular S@GE camp.

Sawyer, the winner of seven Canadian Science Fiction and Fantasy Awards and prizes from the United States, Japan, France and Spain, is teaching students enrolled in S@GE's new electives, which include science fiction writing. Although the camp focuses on science and engineering, this year's students can also take the science of music, the history of science, science fiction writing and photography. The new offerings are intended to create a more holistic study of science and provide students with experiences that make science fun and interesting.

Sawyer is the author of 15 best-selling novels and is past president of the Science Fiction and Fantasy Writers of America. He has taught writing at the University of Toronto, Ryerson University and the Banff Centre for the Arts. He was also writer-in-residence last year at the Richmond Hill Public Libraries.

Close to 1,000 Grade 7 and 8 students attend the S@GE camp each year. Students register as a school class, staying in residence with their teachers and chaperones and experiencing interactive learning using the University's computer and laboratory facilities. The camp runs until June 13.

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# What's Agriculture Worth?

*Ontario farmers want to understand the contributions of their industry*

A NEW WAVE of research is taking place across Ontario that will help determine the impact and value of agriculture for specific Ontario communities.

Prof. Harry Cummings, Rural Planning and Development, is leading a series of studies to gain a true understanding of what agriculture contributes to a region's economy.

Farmers and agricultural organizations, including the Ontario Federation of Agriculture, have initiated the studies in 21 southern, northern and eastern Ontario counties.

"Putting a monetary value on the influence of agriculture on a county's economy will have a significant impact on the regional planning process," says Cummings. "Farmers are trying to understand the contributions of their industry and raise awareness around the importance of agriculture."

Prof. Harry Cummings is helping farmers learn what agriculture contributes to a region's economy. PHOTO BY MARTIN SCHWALBE

The project began in 1996 in response to a request from Huron County farmers, who work in one of the most agriculturally productive parts of Canada. They were convinced that agriculture is a vital, vibrant industry in Ontario, but needed some facts and figures to support their belief.

The results of the study showed that Huron generates $436 million a year in farm-gate sales. In addition, agriculture-related businesses in the county generate expenditures of $2 billion to $3.5 billion a year. Some 4,582 jobs in Huron are directly related to agriculture, and another 11,116 are indirectly connected.

"The results were so impressive that more than half the province's regions have now come forth and requested the same type of research," says Cummings.

The research takes into account the direct, indirect and "induced" economic impact of agriculture in the region.

Direct impact refers to the value of sales and the number of jobs created by the agricultural sector. This is measured by reviewing population and agriculture census data.

The indirect impact includes the number of jobs and value of sales generated off the farm by businesses that interact with farm operations through buying and selling products and services. This is assessed through a business inventory, a questionnaire and telephone surveys.

The "induced" impact of agriculture in the study area is evaluated through a review of population census data from various sectors and involves the number of jobs created by purchases of goods and services for personal (household) consumption.

Cummings says the results are staggering. One of the most recent studies, which looks at Frontenac, Lennox-Addington, Leeds and Grenville counties (a region where just 21 per cent of the land is agriculturally viable), found that farm-gate sales in the area exceed $534 million. More than 11,600 jobs in the region are related to agriculture.

He also found that agriculture in Elgin, Middlesex and Oxford counties generates more than $1 billion in farm-gate sales and directly employs 16,515 people.

This research has huge spinoff effects, says Cummings. In response to the magnitude of agriculture's economic impact, some school boards are including agriculture as a more integrated part of their curriculum. And regional strategic plans are taking the needs of agriculture into more significant consideration.

*BY ELLEN KLUPFEL*
*OFFICE OF RESEARCH*

# Fish Oil Egg Product Lowers Risk of Heart Disease, Study Finds

*Effects comparable to those of synthetic drugs*

WHAT DO YOU GET when you add heart-healthy fish oils to an egg product? A novel "functional food" that lowers the risk of heart disease and doesn't taste fishy, new U of G research has found.

The study conducted by Prof. Bruce Holub, Human Biology and Nutritional Sciences, and master's student Emily Rose showed that a liquid scrambled egg product enriched with the omega-3 fatty acids EPA and DHA (normally found in fish oils) lowered blood triglyceride levels by 32 per cent. Those reductions are comparable to the effects seen with certain synthetic drugs prescribed for patients at risk of heart disease, Holub says. The findings, which also showed no significant increase in cholesterol levels, were presented recently at the annual meeting of the American Oil Chemists' Society.

Holub and Rose did a randomized cross-over study of healthy men with normal to moderately elevated triglyceride levels. The men were divided into two groups, each consuming one of two breakfast meals, and were tracked for two 21-day periods. The breakfast meals were identically balanced for calories and nutrients, with the difference being that one meal contained the scrambled egg product. After a "wash out" period, the diets of the two groups were switched.

Blood samples and data analysis showed that the egg breakfast lowered plasma triglycerides an average of 32 per cent, whereas no such significant effects were observed when the groups consumed another food for breakfast.

"This product is a very promising functional food," says Holub, a scientific adviser for U of G's Human Nutraceutical Research Unit. "Nutraceutical" is one of the terms used to describe natural food ingredients that are known to fight or prevent disease. When they are incorporated into a food at certain levels, the food has a drug-like effect and becomes known as functional.

Holub says it's widely accepted that EPA and DHA have heart-protective effects, such as lowering blood triglycerides, reducing risks of death from heart attacks and reducing heart disease. But until now, the only source of these fatty acids has been fish or fish oil capsules, which can have an unpleasant taste or side effects.

The ready-to-serve scrambled egg product used in the study has been available in stores for only a couple of months, and is the first prepared egg product to be so highly enriched with omega-3 fatty acids normally found in fish. One serving provides as much omega-3 as four fish oil capsules.

"Across Canada, hundreds of millions of dollars are spent on synthetic drugs that lower triglyceride levels by 25 to 30 per cent," says Holub. "This product appears to lower triglyceride levels just as much, but through consuming an all-natural food."

Adds Rose: "It is truly amazing when a product can deliver these effects on health and still taste great."

*BY LORI BONA HUNT*


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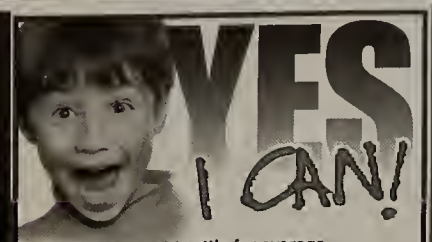


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# Male Victims of Sexual Abuse Sought for Study

*Researchers want to interview survivors of childhood abuse and their partners*

MEN WHO were victims of sexual abuse as children are being sought for a new groundbreaking study in the Department of Family Relations and Applied Nutrition.

Prof. Judy Myers-Avis and graduate student Ellen Maniago hope to interview men who are survivors of one or more incidents of childhood sexual abuse. They're also interested in speaking to current or former partners of male survivors.

"We want to know whether and how this abuse has affected men's intimate relationships," says Maniago. "We want to talk to men about their experiences, how they've coped and the impact it's had on those closest to them, which is why we're also interested in interviewing partners."

Extensive studies have been done on female survivors of childhood sexual abuse, says Myers-Avis, and a few of those studies have included men whose female partners were victims of abuse. But much less is known about the effect of child sexual abuse on men. And there have been no studies that have asked women about their experiences in relationships with male survivors, she says.

"Although we expect that in many ways, the experiences of male and female survivors may be similar, we also expect we may find important differences resulting from differences in the socialization and expectations of men and women. There are added taboos and challenges for men because being sexually abused goes against societal definitions of masculinity, often raising a man's fears about his adequacy and manhood."

Adds Maniago: "I think the ways boys and men are socialized can create obstacles to talking about childhood sexual abuse. Men may feel ashamed of this experience and want to forget it ever happened. Or they may feel it was their fault and they should have been able to stop it."

The researchers plan to conduct confidential taped interviews in Guelph and the Kitchener-Waterloo-Cambridge area, although they will also accommodate people from other areas. Interview questions will focus on the participants' perceptions of how the abuse may have affected their intimate relationships, including their ideas about emotional intimacy, sexual intimacy and ability to trust.

"We hope to talk to them about the challenges they faced and how they've overcome them," says Myers-Avis. "We want to learn from their experiences. Understanding what these men faced — and their current and future needs — can help us know how to better serve other survivors through therapy."

A confidential voice-messaging system has been arranged for the study. Anyone interested in taking part or in obtaining more information can call 519-570-5354 or the toll-free number 1-866-293-3303.

*BY LORI BONA HUNT*

# LETTERS

## CANADIAN DEMOCRACY WAS NOT TARNISHED IN QUEBEC CITY

I am writing in response to the May 9 letter from Prof. David Josephy. I was intrigued by his statement that April 21 "was a dark day for Canadian democracy." I was curious as to how the issues discussed in the letter were a mark on democracy.

According to Merriam-Webster's Dictionary, democracy is "government by the people." This is a very pure definition. The second part of the definition may be a better description of the Canadian democratic system: "a government in which the supreme power is vested in the people and exercised by them directly or indirectly through a system of representation usually involving periodically held free elections."

According to this definition, the most undemocratic gesture on that day would have been the protests themselves — by trying to prevent the freely elected representatives from doing what they were elected to do by the majority of Canadians.

The infringements mentioned by Prof. Josepby were not of democratic rights, but rather of the fundamental freedoms of the Canadian Charter of Rights and Freedoms. Most poignant would be the freedoms of expression and peaceful assembly. Even here, there may be debate as to whether or not these freedoms were violated. Was all of the assembly peaceful? Did the spillover from curtailing violent protests infringe your (and others') freedoms? Was the fence not an attempt to protect the same rights of the freely elected representatives?

I do not wish to debate the existence and extent of violations of these freedoms, nor do I want to make a statement for or against the demonstrations in Quebec City. I just wish to note that April 21 was not as dark a day for democracy as suggested by Prof. Josephy and certainly not in the facet presented. There didn't seem to be any violations of Canadian democratic rights, and I don't think your readers should believe that our democracy has been tarnished in any way by the events on that Dark Day.

Jeremy Brown, M.Sc. candidate
Department of Agricultural Economics and Business

# Bacteria Research Advances Use of Nanotechnology

*Continued from page 1*

mineral surface has been suggested but never quantified before," Beveridge says.

The strength of the bacterium's "protein grip" was measured using a specially designed biological force microscopy technique that quantifies force at the nanoscale level. This technique was vital because the bacterium is so tiny that hundreds of thousands of them can fit on the tip of a needle.

The scientists say their study revealed little-known information about the relationship between the bacterium and iron-containing minerals. This includes the fact that *Shewanella* produces the proteins for adhesion in an environment where oxygen is extremely limited.

"These bacteria can be so deep within the Earth's surface that it would take 50,000 years for rainwater to get down to them," says Beveridge. "There is no light, no photosynthesis and no complex sugars or proteins to feed on. It means this is a very primitive, but very resilient, form of life."

Beveridge adds that because bacteria wear down and even develop new minerals, some of the Earth's surface is actually made up of the bacterium's "leftovers."

"It's hard to believe that these simple life forms so altered geology," he says. "Our estimates suggest that a mass equal to that of the Earth's exposed crust has been reworked by microbial life over the more than three billion years of life's existence. Geologists have to stand back and take another look at the impact of biology on the minerals that they study."

The scientists say their study not only provides an improved fundamental understanding of how bacteria interact with solid surfaces, but also advances the use of "nanotechnology" to quantify and characterize those interactions.

"This bacterium could be representative of many bacteria down there," says Beveridge. "Strangely, an examination like this one at the molecular level actually helps us understand things on the huge global level."

*BY LORI BONA HUNT*

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Pine harvest table with scrub-top design, antique boards, hand-tool made, 39 inches wide by six feet long, 829-2400, Ext. 3133.

Microsoft 2000 Premium computer program, latest version, never opened, Jim, 821-7668 or jarmstro@sec.uoguelph.ca.

Child's Rawlings T-ball helmet, used only one season, excellent condition, 767-6313 or 763-6556 evenings.

Window air conditioner, 8,250 BTU, used only four months, like new; student desk with hutch, good condition; double sofa bed, good condition, 787-2797 or wfung@uoguelph.ca.

Kenmore window air conditioner, 10,000 BTU, good condition, Ext. 3094 or 836-6104 evenings.

Four-level backsplit in Fergus, 3,000 square feet on 0.5 acres with continuously fed ponds; 1989 Honda Accord, excellent condition, Ext. 4736 or 843-7738.

Furnished three-bedroom townhouse, two baths, 1,300 square feet, 62 Wilsonview, Tim, 416-358-1381 or 905-329-2208.

Handmade wooden clothes dryers, fold out into three sections, Ext. 6580.

## FOR RENT

Two-bedroom apartment in south end, private entrance, laundry, air, parking, on bus route, suitable for mature students or professionals, available July 1, $1,000 a month inclusive, 824-8051 or rent@soon.com.

Two-bedroom cottage in Oliphant, just north of Sauble Beach, dishwasher, deck, propane barbecue, TV/VCR, suitable for four, non-smokers, no pets, $500 a week, leave message at 763-1236 or send e-mail to bardwell@vth. uoguelph.ca.

One-bedroom apartment, self-contained with separate entrance, on bus route, close to campus, parking, laundry, air, suitable for one person, non-smoker, available June 16 or July 1, $650 a month inclusive, Char, 824-4852.

Furnished bedroom with adjoining private kitchen/study area, laundry, cable, non-smoker, no pets, leave message at 762-1236 or send e-mail to bardwell@ovc.uoguelph.ca.

Four-bedroom waterfront cottage/house on Bruce Peninsula, south of Stokes Bay, four-piece bath, eight people maximum, propane barbecue, TV/VCR, fireplace, non-smokers, no pets, 824-0667 or katkins@registrar.uoguelph.ca.

Large bedroom/sitting room in finished basement in shared house near Hartsland, private bath and shower, laundry, parking, bus stop at door, available Sept. 1, $425 a month, Jen, leave message at 766- 6046.

Two-bedroom holiday home in south of France (Antibes/French Riviera), furnished, two baths, available weekly and monthly, Nicole, 836-6745 or fnmoll@webtv. net.

Four-bedroom home in south end for short-term accommodation, available end of June to end of August, $1,500 a month inclusive, Carol, 823-1857 or cmthompson52@hotmail.com.

Georgian Bay Island cottage, quiet, peaceful, million-dollar view, Ken, 822-2125 days or 822-7705 evenings.

## WANTED

Rebounder mini trampoline, good condition; basic NordicTrack cross-country skier trainer, Wayne, 856-9760 or wayne@pr.uoguelph.ca.

Ride to and from campus, Brucedale area, will share gas costs, Ron, 856-1667 or rchauvin@uoguelph.ca.

House in country within 30 kilometres of Guelph for post-doc, no pets, no children, non-smokers, 515-232-1534 evenings or kristjan@iastate.edu.

Two-bedroom apartment or house, close to campus, for June 15 or July 1, send e-mail to wyang@swgc.mun.ca.

One-bedroom apartment for July or August, parking, laundry, quiet area, send e-mail to milka_2@hotmail.com.

Two-bedroom apartment needed for September, send e-mail to spghosa@netcom.ca.

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# EVENTS

## ARBORETUM

The Arboretum Auxiliary's Sunday afternoon walks continue June 3 with "Late Spring Discovery Tour." It leaves from the Nature Centre at 2 p.m. and is free, with a suggested donation of $3 per person. For more information, call Ext. 2113.

"Willows of Southern Ontario" is the theme of a June 11 program designed for botanists and led by horticulturist Henry Kock. Running from 1 to 4 p.m., the session will focus on the vegetative identification and habitat characteristics of 15 willow species. Cost is $40. Registration and payment are required by May 28.

Naturalist Chris Earley offers an all-day workshop on birds June 13 from 9 a.m. to 4 p.m. Cost is $45. Registration and payment are due May 30.

The Arboretum presents beginners' workshops on sketching and painting nature next month, both led by naturalist Chris Earley. On June 19 at 7 p.m., "Sketching Nature" focuses on sketching techniques and note-taking for those who want a permanent record of their observations of nature. Cost is $20. Registration and payment are required by June 5. On June 20 from 9 to 11:30 a.m., Earley offers a watercolour course called "Look, See, Paint." Cost is $25. Registration and payment deadline is June 6.

## ART CENTRE

The volunteers of the Macdonald Stewart Art Centre host their annual garden tour June 17. Gardenscapes 2001 runs from noon to 5 p.m. rain or shine and will feature six private gardens in the Guelph area. Included on the tour are the gardens of retired U of G history professor Gil Stelter and his wife, Sally, and Prof. Terry Graham, Human Biology and Nutritional Sciences, and his wife, Jane. Cost of the tour is $10 general, $3 for children. Tickets are available at the art centre, Framing and Art Centre, Royal City Nursery and Coach House Florists. For more information, call 837-0010 days or 822-6867 evenings.

## CONCERT

Samba Squad and Maza Mezé perform June 9 at 8 p.m. at War Memorial Hall. Tickets are $17.50.

## CONFERENCE

U of G will host a joint annual conference of the Agricultural Institute of Canada and the Canadian Society for Engineering in Agricultural, Food and Biological Systems July 8 to 11. "Sustaining Rural Canada" will address the broad issues of traditional rural economies, while looking specifically at environmental, community and technological changes in rural communities. Early bird fees are in effect until May 30. Register online at www.aic2001.com.

## NOTICES

Powerhouse Lane will be closed until May 28 due to road construction. Only service vehicles will be allowed access as required. Parking in P49 will be disrupted during this period, and alternative parking can be found in P19.

Student Housing Services is offering summer hostel accommodation until Aug. 17. Single and double accommodation are available in student rooms in Lambton Hall and East Residence. For more information or to make reservations, call Ext. 8121 or send e-mail to jdunbar@housing.uoguelph.ca.

The Agri-Food Continuing Education Council will hold a staff development workshop on campus June 5 and 6. The program is open to interested employees at U of G and the agricultural colleges at Ridgetown, Kemptville and Alfred. Cost is $100; enrolment is limited. For more information, call Kathy Biondi, OAC's director of agri-food continuing education, at Ext. 3414.

## SEMINAR

Gerry Wright of McMaster University discusses "Resisting Resistance: Molecular Strategies in the Battle Against Superbugs" May 29 at 10 a.m. in Chemistry and Microbiology 160.

## TEACHING SUPPORT

Teaching Support Services presents a summer institute titled "Design and Develop Your WebCT Course" June 4 to 7. Intended for new WebCT users, it is restricted to instructors who are developing a course for fall. For full details or to register, visit the Web site www.tss.uoguelph.ca/workshp/workshops.html. For more information, contact Mary Nairn at Ext. 3571 or mnairn@uoguelph.ca.

TSS is offering a series of workshops designed to prepare graduate students for roles as teaching assistants and future instructors. For more details, visit the Web site www.tss.uoguelph.ca/workshp/workshops.html or contact Mary Nairn at Ext. 3571 or mnairn@uoguelph.ca.

## THESIS DEFENCES

The final examination of PhD candidate Danika van Proosdij, Geography, is May 23 at 2:30 p.m. in Hutt 234. The thesis is "Spatial and Temporal Controls on the Sediment Budget of a Macrotidal Saltmarsh." The adviser is Prof. Robin Davidson-Arnott.

The final examination of Marnie Treichel, an MA candidate in the Department of Psychology, is May 24 at 9:30 a.m. in MacKinnon 132. The thesis is "Gender Differences and Domain Specificity in Norm Violations: Evaluating Acceptability and Causal Attributions." The adviser is Prof. Serge Desmarais.

The final examination of MA candidate Meghan Cameron, History, is May 25 at 2 p.m. in MacKinnon 132. The thesis is "How the Dominion Heard the Cry: The Early History of the Canadian Save the Children Fund, 1922 to 1946." The adviser is Prof. Linda Mahood.

The final examination of Jeremy Yethon, a PhD candidate in the Department of Microbiology, is May 29 at 1 p.m. in Animal Science and Nutrition 141. The thesis is "Lipopolysaccharide Synthesis and Characterization of a Core Oligosaccharide Kinase Essential to Outer Membrane Stability." The adviser is Prof. Chris Whitfield.

## COMMUNITY EVENTS

The Rotary Club/Tylenol Fifth Annual Dragon Boat Festival runs June 1 to 3 at Guelph Lake. The festival begins Friday at 5 p.m. with games and a silent auction and continues at 8 p.m. with entertainment. The Dragon Boat races begin at 7 a.m. Saturday and Sunday. Saturday also features children's events from 10 a.m. to 4 p.m. and performances by Funky Mama at noon and the Toronto Chinese Association's Dragon Dancers at 2 p.m. The weekend will also include a raffle for a signed Wayne Gretzky Team Canada jersey. Admission is $5 for adults, $2.50 for children. For more information, visit the Web site www.guelphdragonboat.com.

As part of Stroke Month, the Stroke Recovery Association is hosting a presentation by Michael and Marcia MacIntyre, who will talk about his recovery from a hemorrhagic stroke. The free talk is May 30 at 7 p.m. at the Evergreen Seniors' Centre, 683 Woolwich St. For more information, call Marj Brooks at 824-1628.

The Guelph Spring Festival kicks off May 25 at 8 p.m. at the River Run Centre with an opening-night gala featuring the Elmer Iseler Singers. The festival continues until June 5 with a range of musical entertainment, including the Festival Strings of Canada, pianist Peter Allen and the Flying Bulgar Klezmer Band. For ticket information, call 763-3000.

The Donkey Sanctuary of Canada holds its eighth annual Donkey Day June 10 from 11 a.m. to 4 p.m. The day will feature donkey and pony rides, entertainment and a demonstration of stress-free horse training. Admission is $6 for adults, $4 for students and seniors and $2 for children under six. The sanctuary is located at 6981 Puslinch Con. 4.

The 17th annual Zonta house tour of Guelph and area homes runs June 3 from 11 a.m. to 4 p.m. Tickets are $15. To order, call 823-1977.


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5 **EAT** more fish to prevent Alzheimer's, study suggests.

5 **ENGINEERS** take aim at teeth grinding.

6 **POLITICAL** scientist offers reflections on the 'unelection.'

## SNOW WONDER

This winter's unusually heavy snowfall has been causing headaches for University staff responsible for clearing the campus's parking lots, roads and sidewalks (see story on page 3), but out at the Arboretum, it's a thing of beauty. No shovelling required.

PHOTO BY MARTIN SCHWALBE

# Eight Faculty Win PREA Support

*English professor is first U of G recipient in the arts*

EIGHT U OF G researchers have won Premier's Research Excellence Awards (PREA) in the fourth and fifth rounds of the competition, which were announced in December.

The latest winners bring to 15 the total number of U of G faculty who have won PREAs since the program began in 1998. With the awards valued at $150,000 each — $100,000 coming from the Ministry of Energy, Science and Technology and $50,000 from the University or other sources — Guelph faculty have received $2.25 million in PREA funding so far.

The new funding allows Guelph researchers to push the boundaries in health, the environment and Canadian cultural expression, from subject matter as tiny as micro-organisms in the soil to gravitational waves in outer space.

"I was very happy to hear the news and extremely pleased that my work was considered valuable enough by my peers to merit an award," says Prof. John Klironomos, Botany, one of the eight new PREA recipients.

The others are Profs. Eric Poisson, Physics; Kees de Lange, Animal and Poultry Science; Yoshi Mine, Food Science; Beren Robinson and Elizabeth Boulding, Zoology; Dev Mangroo, Chemistry and Biochemistry; and Daniel Fischlin, School of Literatures and Performance Studies in English.

Fischlin is the first U of G winner in the arts. "Now that the principle has been established that members of our disciplines are eligible for these awards, I am sure we will see more coming to the college in future years," says College of Arts dean Carole Stewart.

"Daniel is indubitably an outstanding young scholar, and I am, of course, delighted that such an achievement in the humanities has been recognized alongside similar ones in the sciences. The timing of this award is also superb from the point of view of the school, because the award will result in the addition of a post-doctoral fellow and a graduate research assistant just as the school's new PhD program gets under way. I congratulate Daniel — who also holds an OCUFA Teaching Award and is now the Guelph co-ordinator of the new doctoral program — on his many achievements."

*"The University's PREA success testifies to the incredible breadth of basic and applied research programs under way at Guelph, as well as to the quality of the gifted young faculty who are leading this inquiry."*

Fischlin's research project is titled "Canadian Adaptations of Shakespeare" and will generate three important new works. The first will be a critical book examining the nature of Canadian adaptive practices in relation to the country's theatrical history and in relation to Canada's emergence as a nation-state. He will also produce the first anthology of Shakespeare adaptations in Canada from the earliest known through to the present, including aboriginal, African-Canadian and Québécois productions, as well as those from Atlantic and Western Canada.

Finally, Fischlin will produce a comprehensive bibliography to com- plement the two other works.

"I'm delighted and honoured, especially given the rarity with which these awards go to humanities scholarship," he says. "The award could only have been won because of the superb research context provided by the activities of my colleagues in the School of Literatures and Performance Studies in English. Particularly heartening is the knowledge that the award will be of significant benefit to the newly minted joint PhD program in literary studies/theatre studies as well as to our joint MA programs. I look forward to using this unique opportunity to contribute constructively to the research and pedagogical strengths that make our school so distinctive."

Mine's research focuses on developing orally administered antibodies that could be used to enhance animal and human immunity to gastrointestinal pathogens. One such pathogen is human rotavirus, which infects up to 90 per cent of children under the age of three and results in three million infant deaths worldwide. There is currently no vaccine available for the pathogen.

Mine and his team have discovered they can produce enhanced quantities of an antibody in egg yolks, and are hoping to capitalize on this discovery to develop a passive immunization system that could be administered to infants.

"My research group is actively exploring the interface of food science, nutrition and biomedical research," says Mine, "and this award is testament to our high standards of research and our ability to conduct a strong multidisciplinary project that might offer significant benefits to human health."

Robinson says his first reaction to learning he had won a PREA was disbelief, which quickly turned to a gleeful rubbing together of hands. "Oh, boy!" he said. "It's Christmas time in the lab!"

Robinson is an evolutionary ecologist whose basic research examines the ecological factors influencing the divergence of closely related populations and species of fish, and

*Continued on page 9*

# Science Writer Named Fellow

*Award-winning journalist to spend year on campus*

STEPHEN STRAUSS, award-winning science writer, columnist and editorial board member with *The Globe and Mail*, has been named the inaugural winner of the Donner Foundation Fellowship at U of G.

The award allows the distinguished recipient to spend up to a year on the Guelph campus while writing a book exploring an emerging issue in agriculture, food or biotechnology, as well as delivering guest lectures to Guelph students and acting as a resource for media preparing stories on food-system issues.

"This fellowship and the stature of our first fellow illustrate the key role Guelph plays in new areas of research and the importance we attach to communicating these advances to as wide an audience as possible," says president Mordechai Rozanski. "We are honoured to have such a worthy and eminent inaugural fellow as Stephen Strauss. He is recognized nationally for his balanced, insightful and gifted writing and his commitment to explaining complex scientific issues to Canadians."

Strauss says he's pleased to be named the inaugural winner of this award. "I'm eager to begin work on a book about how the abundance of food in our lives both shapes and distorts our relationship to what we

*Continued on page 9*

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# SENATE REPORT

*VP provides update on capital campaign*

PRESIDENT MORDECHAI ROZANSKI informed Senate Dec. 12 that Board of Governors held a retreat Dec. 7 where key planning issues were reviewed. These include enrolment growth with quality; strategic research planning; recruitment and retention of faculty and staff; and facilities renewal and expansion. The governors were also updated on Guelph's fund-raising campaign. Prof. Rob McLaughlin, vice-president (alumni affairs and development), gave senators a similar update on the capital campaign.

**CAMPAIGN ON TRACK**

McLaughlin said the campaign, which began officially in January 1999, is still in its early stages. Sometime within the next year and a half, the campaign will move to a more public phase. The campaign's focus is on raising funds to retain and attract the best faculty and the best students, and to develop and improve campus facilities, he said.

An example of the new facilities for which the campaign hopes to raise funds is the proposed science complex and classroom clusters, he said. The University has already received $50 million from the provincial SuperBuild Growth Fund towards this new building, but needs to raise another $30 million to complete the project.

McLaughlin informed Senate that U of G has recruited several business and community leaders to form the campaign cabinet. These individuals will not only make significant gifts of their own to the University, but have also volunteered to solicit donations on U of G's behalf. McLaughlin added that he has been soliciting senior University administrators. In the new year, this activity will be expanded to include department chairs and individual faculty members. It is important, as the University approaches private donors, that it be able to claim wide participation from its own faculty, staff and senior administration, he said.

**MORE ARTICULATION AGREEMENTS APPROVED**

Senate approved four new articulation agreements: between the School of Hotel and Food Administration and Winnipeg's Red River Community College's hotel and restaurant administration program; between HAFA's B.Comm. program and the Province of British Columbia's hospitality management diploma programs; between the Faculty of Environmental Sciences and Seneca College's School of Biological Sciences and Applied Chemistry; and between the School of Landscape Architecture and the Northern Alberta Institute of Technology's landscape architecture technology program.

**KRAKOW SEMESTER**

Senate also approved the continuation of the Krakow semester until April 30, 2006, when it will again be reviewed. The program will be offered every two years.

# U of G to Launch Combined Arts and Sciences Degree

*Four-year undergraduate program will build on success of AKADEMIA*

STUDENTS SEEKING a broad education in the arts and sciences will have the option of earning a unique undergraduate degree at Guelph that spans both areas of study, beginning in the fall 2002 semester.

The new baccalaureate of arts and sciences (BAS), which was approved by Senate Dec. 12, is "an innovative and exciting program that clearly addresses demand from students and links the very considerable strengths in the University across the campus," says Prof. Alastair Summerlee, provost and vice-president (academic).

The four-year honours program will build on the highly successful AKADEMIA program, which has been offered since 1990. It integrates arts and science courses for first-year students and provides co-curricular activities such as field trips. AKADEMIA students entering second year follow the traditional path to either a BA or B.Sc. degree. With the implementation of the BAS, AKADEMIA will be discontinued. The last cohort will be admitted for fall 2001.

The new program will provide an interdisciplinary approach throughout the four years of study. BAS students will be required to take six new core courses, which integrate perspectives from the arts, humanities, social sciences and natural sciences. The new courses will be supported by offerings from the two traditional degree programs.

"The value of a broad education is widely acknowledged by both educators and business professionals, and this degree aims to fulfil this premise through its interdisciplinary approach," says CBS dean Bob Sheath, chair of the committee that developed the BAS program.

The program will be further enriched by co-curricular activities that relate the course material to the larger context of society.

As with AKADEMIA, students in the first year of the program will be encouraged to live in "clusters" in residence to foster a sense of community. In fifth semester, students will have the opportunity to formulate a project collectively and implement it in the wider community.

Guelph's BAS is one of only three such programs in Canada. The University of Toronto and McMaster University have also recently begun offering combined arts and science programs, which have "attracted very high-quality students and been very successful," Summerlee says.

The development committee also reviewed similar degrees in the United States, Australia and the United Kingdom when formulating the new BAS.

"Our degree differs in having the requirement for two minors, one in each of the traditional degree programs," says Sheath. "This gives strength in two disciplines and an option to do graduate studies in one of them."

It's anticipated that the BAS will have a relatively small enrolment, with an annual intake between 80 and 100 students who have high academic standing and demonstrated proficiency and interest in both arts and sciences.

*BY STACEY CURRY GUNN*

@GUELPH

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## NEWS IN BRIEF

### NEW INTERNAL AUDITOR NAMED

Kelly Bertrand, assistant manager of Internal Audit since January 1997, has been appointed manager of Internal Audit, effective Nov. 15, 2000. A 1992 B.Comm. graduate of the University of Windsor's Faculty of Business Administration and a certified general accountant (CGA), Bertrand previously held positions with Sears Canada and Revenue Canada. Succeeding him as assistant manager of Internal Audit is Tina Hammerschmidt, who comes to the University after five years at Manulife Financial. She holds a B.Comm. and MBA from McGill University and has a CGA designation. Prior to joining Manulife, she spent nine years with CP Rail.

### SUPPORT FOR INFANT-CARE PROGRAM TO CONTINUE

The finance committee of Board of Governors has endorsed a report recommending continued support for the Child-Care and Learning Centre and its infant-care program. Presented to the board Dec. 7, the report suggests a four-pronged approach to dealing with the centre's current deficit: an increase in fees; revenue generation through fund-raising; cost-saving measures; and financial support from the University. The finance committee supported this recommendation, citing the facility's importance to teaching and research and the positive impact a quality child-care facility will have on future recruitment of faculty, students and staff.

### NEW FIELD HOUSE OPENS

U of G's new athletics field house went into play last week as a new home for intramural programs and varsity training. The covered field house is also available for recreational uses such as pick-up soccer games and jogging and walking on the track. For a schedule of recreational times, call the Athletics Centre at Ext. 2216.

### CATRN ORGANIZES TALKS

The Canadian Agri-Food Trade Research Network (CATRN), a joint research, teaching and public service program of U of G, Laval University and the University of Saskatchewan, organized the conference "Agri-Food Trade Liberalization: Can We Make Progress?" in Quebec City. Fifty invited participants came from academia, provincial and federal governments and the private sector. Speakers included CATRN's two co-directors — Prof. Karl Meilke, Agricultural Economics and Business, and Bill Kerr of the University of Saskatchewan. Conference co-sponsors were the Canadian Donner Foundation, Canadian Wheat Board, Estey Centre for Law and Economics in International Trade and the Canadian Chicken Producers Marketing Board. Papers from the conference are available on the Web site www.eru.ulaval.ca/catrn.

# Grounds Staff Snowed Under

*Winter blast a challenge for campus shovelling, plowing crews*

Bill Macdonald of Grounds is responsible for clearing the snow and ice around 22 buildings on campus.
PHOTO BY MARTIN SCHWALBE

At 2 A.M. on a snowy winter morning, most U of G employees and students are fast asleep and oblivious to the stormy conditions that will turn that day's trip to campus into a challenge.

Not so for the University's Grounds Department staff. The duty supervisor is already assessing the situation — looking at the weather report, talking to campus police and checking with the crew chief for the night shift.

If necessary, he starts calling his staff, and they arrive on campus by 3 a.m. instead of their usual 6:30 a.m. The 18-member crew goes to work in the dark of night: plowing roads, parking lots, service access areas and walkways and shovelling the rest by hand.

"It's hard, tedious, laborious, back-breaking work," says Grounds staffer Bill Macdonald, who's been helping to dig out the campus since 1988. "This year, the snow has been relentless."

Macdonald follows the same route every day in the northwest corner of campus — shovelling the sidewalks, stairs, entranceways, residence fire escapes and other places snow-removal machinery can't reach. He is responsible for the areas around 22 buildings, including the police building, Maids Hall, the Hersey Building and steps to parking lot 49, Blackwood Hall, the fire hall, the President's House, Macdonald Hall, HAFA, Lennox/Addington, Watson Hall and Lambton Hall.

Macdonald's route, covering one of six campus snow-removal zones, is mapped out for efficiency, and areas identified as priorities are cleared first. When he gets to the end, he starts going over his route again to deal with any new snowfall, or is directed to other areas that need to be cleared.

Special provisions are in place to accommodate people with disabilities on campus. Grounds has a list of the daily schedules of students and employees with mobility concerns to ensure the routes they travel are cleared ahead of time.

During snowstorm conditions, Macdonald might not take a break until 10 a.m. "If it's very, very cold, I'll do three buildings and then get inside for a few moments to get warmed up," he says.

In the event of a heavy snowfall, the crew will put in 12-hour days to clear the campus's 16 hectares of parking, 56 kilometres of walkways and 32 kilometres of roads. While Macdonald and his fellow crew members are hard at work, their duty supervisor is back in the office taking one phone call after another — mostly complaints about conditions on campus. Grounds Department manager John Reinhart, who rotates responsibility as duty supervisor with Paul Cook and Dave Hellewell, calls it "firefighting." As much as possible, he directs the crew to deal immediately with the offending areas, but that means another spot must wait, he says, and it keeps the staff running all over their zones instead of proceeding in an orderly manner.

This year's heavy snowfall has been particularly difficult for the seven shovellers on the team because Grounds has had trouble recruiting enough students for the part-time shovelling jobs that ease the load.

"We all wish people would look outside and realize it's winter and they live in Canada," Reinhart says. "It's stressful for the staff, who are already working hard and long hours. After a heavy snowstorm, it can take a week to get it properly cleaned up."

Adds Hellewell: "It's not the snow removal that's the problem. It's all the people who think we should run around and catch it before it hits the ground."

The campus community can help speed up the snow-clearing process in a number of ways.

Try to avoid parking in lots that haven't been plowed yet, but if you must, park in a corner near the entrance of the lot rather than in the centre, and park close to any other cars that are already there. Cars left overnight in lots not designed for that purpose also delay the snow-removal process.

"When there are cars here, there and everywhere, it takes us twice as long to clear a parking lot," says Dennis Lamont, who drives a plow sander. He also removes snow and ice from the brick walkways radiating out from the University Centre and cautions pedestrians to stay away from snow-removing equipment.

"I'm trying to make the walk safe," he says. "People don't realize how they put themselves in danger around the equipment. Please give us room to do our job."

When winter gives way to spring, the Grounds staff will thankfully return to their duties as gardeners, groundskeepers, machine operators and heavy-equipment operators. Macdonald is a gardener and says he "can't wait" to lay down his snow shovel for another season. "I'm looking forward to it big time."

In the meantime, the staff hope for clear weather and try to keep their spirits up. "We are a good team," Lamont says. "You couldn't ask for a better bunch of guys to work with."

*BY STACEY CURRY GUNN*

## IN MEMORIAM

Jean Gosling, one of the founders of the Arboretum's Gosling Wildlife Gardens, died Dec. 6. She and her husband, Philip, provided funding to establish the collection of five gardens in 1989 and made another gift in 2000 that will provide for a major collection development over the next three years.

Recognized among the Arboretum's 30th-anniversary "heroes" at a celebration in November, the Goslings were cited for their foresight in creating at U of G one of the first wildlife gardens in Canada. "It became a blueprint for similar projects throughout the country," says Arboretum director Prof. Alan Watson.

Jean Gosling is survived by her husband and a son, Paul.

## PEOPLE

### ESSAY ON CANADIAN LITERATURE WINS AWARD

Catherine Higginson, a graduate student in the School of Literatures and Performance Studies in English, was awarded the 2000 George Wicken Prize in Canadian Literature from the journal *Essays on Canadian Writing*. The prize is awarded annually to the student who submits the best critical essay on Canadian literature. Higginson's essay was titled "The Fact of Blood That Was the Cause of So Much Pain: The Raced Female Body and the Discourse of Peuplement in Rudy Wiebe's *The Temptations of Big Bear* and *The Scorched-Wood People*."

### OVERSEAS WORKSHOPS FOCUS ON FARMER PARTICIPATORY RESEARCH

Prof. Sally Humphries, Sociology and Anthropology, and rural studies doctoral student Kirit Patel ran workshops on farmer participatory research methods and farmer innovation in technology development at an international seminar called "Uniting Science and Participation in Research," held in Nairobi in November. The seminar was organized by the participatory research and general analysis initiative of the Consultative Group in International Agricultural Research. In November, Humphries gave a week-long course on farmer participatory research to faculty at the Catholic University of Temuco in Chile and presented a paper on participatory plant breeding at the 16th International Farming Systems Congress in Santiago.

### TWO CHOSEN FOR INTERNSHIP

Two U of G graduate students have been selected for the internship program sponsored by the Inter-American Institute for Co-operation on Agriculture-Canada. Maren Oelbermann, an M.Sc. candidate in the Department of Land Resource Science, will travel to Costa Rica for her project on "Production of Agroforestry Systems: Linking Carbon Sequestration and Sustainable Agriculture in Costa Rica." Casandra Bryant, a PhD candidate in the School of Rural Extension Studies, received support to study the feasibility of a partnership between the Developing Countries Farm Radio Network and Zamorano Pan American School of Agriculture in Honduras.

### STUDENT THESES COMMENDED

Two recent graduates of the School of Landscape Architecture have won student design commendations from the American Society of Landscape Architects, the most prestigious awards the profession offers to students. MLA graduate Peter Briggs received a commendation for his graduate thesis on "Community Development With Indigenous Communities: Facilitating the Creation of Appropriate Environments." BLA graduate Gerald Dieleman was honoured for his undergraduate thesis on "Downsview Park: Evoking the Experience."

# New Surgical Equipment Benefits Patients at OVC

*Laparoscopy offers less-invasive option for abdominal surgery*

OVC's Veterinary Teaching Hospital (VTH) is making good use of new surgical techniques and equipment that are less invasive, reduce pain and speed patient recovery.

Laparoscopy equipment acquired last year with a $20,000 allocation from the Pet Trust Fund is making it possible for staff veterinarians to offer a viable option in abdominal surgery cases. Horses have been the first animals to benefit from laparoscopic procedures, which have been performed on standing animals with local anesthesia and tranquilization or general anesthesia in a surgical suite.

Prof. Ludovic Bouré, Clinical Studies, brought the technique to Guelph two years ago when he joined the VTH afrer completing master's and post-doctoral research at the University of Montreal, where he developed skill in laparoscopic surgery in horses. He continues to adapt tools and techniques from the field of human medicine to benefit equine patients.

Bouré has used the equipment funded by Pet Trust to continue his research at OVC and to provide training for other VTH staff vets.

Surgeons Simon Pearce, Antonio Cruz and Bouré now offer horse owners a less-invasive option in many surgical procedures, such as the removal of retained testes in stallions, ovariectomies in mares and the removal of infected umbilical structures. Laparoscopy can also be used to remove adhesions caused by earlier surgeries and in many exploratory procedures.

OVC's first laparoscopic surgery under general anesthetic was performed by Profs. Ludovic Bouré, left, and Simon Pearce in the large-animal surgical unit at the Veterinary Teaching Hospital. The patient is a young Clydesdale with a retained testicle. The Pet Trust Fund provided funds to purchase the fibre-optic camera, operated here by Pearce, and the surgical instruments used by Bouré in this less-invasive surgical procedure.
PHOTO BY JENNIFER LANSDOWNE

Laparoscopy is an endoscopic procedure that has been used routinely in human abdominal surgery for more than a decade because it requires smaller incisions, there is less post-operative pain, and many patients can be discharged within a few hours.

The technique offers similar benefits to equine patients. A small fibre-optic camera is inserted into the abdomen through a one-centimetre incision. Two or three similar incisions accommodate surgical instruments and a tube that pumps carbon dioxide into the abdomen to move the body wall away from the viscerals.

Laparoscopy requires considerable skill on the part of the surgical team because the instruments are manipulated by watching a television monitor, and those adapted for large-animal surgery at OVC can be up to three feet in length. While one surgeon positions the light and camera, a second operates grasper and cutting tools.

Pearce says one of the most interesting laparoscopy cases last year involved a young Clydesdale with a retained testicle. This developmental defect (crytorchidism) causes sterility in the horse, although he continues to exhibit the behaviour of a stallion. Most owners want the affected horse to be gelded, and until now, that has involved opening the entire abdominal cavity to locate and remove the testicle.

Pearce recommended the Clydesdale as a candidate for the laparoscopic procedure because of scar tissue in the abdominal area caused by an earlier treatment of a hernia.

"Endosopy allowed us to avoid the problem area altogether and provided the added benefits of less pain for the gelding, quicker healing time and a faster return to normal exercise," he says.

This was the first laparoscopy under general anesthetic at OVC, but VTH surgeons have performed other procedures on standing horses, where the surgical instruments are inserted through incisions in the flank instead of through the underbelly of the horse. Using tranquilizers and local anesthetic on standing patients also eliminates the need for supportive ventilation during surgery.

Horses aren't the only VTH patients that will benefit from endoscopic procedures. As surgeons are trained and appropriate cases arise, the equipment will be used in other large- and small-animal surgeries.

Bouré is also excited about the potential benefit to research and teaching programs. The video of the crytorchidectomy, for example, can be used in both surgery and anatomy courses. He envisions building a library of videos that will present an endoscopic view of the abdominal cavity of both large and small animals. Students could then see the location and natural colouring of functioning organs, rather than studying lifeless organs from a diagram or carcass.

The Pet Trust program that provided funds for the new surgical equipment was established in 1986 and in the last year alone has provided more than $700,000 to advance animal health research and health care.

*BY MARY DICKIESON*

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**PUBLICATION SCHEDULE**

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| Feb. 14 | Feb. 5 |
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# Grinding to a Halt

*New device takes aim at teeth grinding, works towards better treatment*

Dentist Don Cohen, left, engineering student Shellie Boudreau and respirologist Gerry Hollinger are collaborating on the design of a new device to help prevent bruxism. PHOTO BY MARTIN SCHWALBE

NIGHTLY teeth grinding plagues millions of Canadians. A full one-quarter of all dental patients are diagnosed with bruxism, teeth grinding during sleep. But a new device that measures mouth forces may lead to better methods for preventing the wear and tear caused by grinding.

The prototype — called Acrobyte — was designed by fourth-year biological engineering students Shellie Boudreau and Nicole Lauwaert, and systems and computing engineering student Zeynin Juna, in collaboration with engineering professor John Runciman, Guelph respirologist Gerry Hollinger and dentist Don Cohen.

The device will have pressure-activated sensors embedded in a plastic mouthguard that send digital signals to a computer program, which records activity.

Currently, forces created during bruxism are predicted using electrical activity in the associated jaw muscles. Electromyograms (EMGs) use electrodes stuck to the skin over the jaw muscles to measure the activity of the muscle. But this method isn't always accurate because there are many facial muscles, and it's difficult to locate the ones related to grinding. In addition, there is no direct relationship between measured EMG and muscle power.

"EMGs can't distinguish between talking and teeth grinding, which means the measurement might be inaccurate," says Lauwaert. "Our design should result in accurate measurements of teeth grinding with clear, crisp numbers."

Forces generated by grinding teeth can be so strong that the teeth get worn down to the nerves. Bruxism sufferers often wake up with headaches and pains in their jaws.

"Think of circus performers hanging by their mouths from a trapeze," says Boudreau. "That's how much pressure can be generated by bruxism."

Bruxism patients are typically outfitted with a special mouthguard that's big, bulky and uncomfortable. To make matters worse, it doesn't fix the problem permanently.

"We'd like to see our information put towards designing a more effective mouthguard," says Boudreau, "and we hope our device will be used in sleep labs to help determine at what stage of sleep bruxism is triggered."

The researchers' first test subject is also part of their team. Hollinger is a bruxism sufferer who's considered an ideal candidate to test the prototype because his teeth have worn down to the point where the device can fit easily in his mouth.

This research is sponsored in part by an award from the Institute of Electrical and Electronic Engineers Incorporated. The project has also received equipment support from Runciman and materials from Hollinger, Cohen and Caley Orthodontics Lab in Kitchener, which is helping to develop the prototype.

*BY BLYTHE MCKAY*
*OFFICE OF RESEARCH*

# Eat More Fish to Avoid Alzheimer's, Other Diseases, Research Suggests

*Lower DHA levels found in Alzheimer's sufferers and elderly with dementia, cognitive impairments*

EATING FISH may be a way to ward off Alzheimer's disease and other forms of dementia and cognitive afflictions, according to new research by a team led by U of G researcher Julie Conquer, director of Guelph's Human Nutraceutical Research Unit (HNRU).

The study, reported in the current issue of the U.S. journal *Lipids*, found that Alzheimer's sufferers as well as elderly subjects with other forms of dementia or cognitive impairments all bad lower levels of DHA (docosahexaenoic acid) in blood samples than did elderly subjects with normal cognitive functioning.

DHA and other omega-3 fatty acids are found in high concentrations in many fish species, including tuna, salmon and trout, and have already been found to lower incidences of cardiovascular disease, depression and attention deficit disorder. Eggs also contain omega-3 fatty acids.

"Our research suggests that the need to increase fish, fish products or other sources of omega-3 fatty acids in the diet of both the population at large and the elderly seems prudent," says Conquer, an adjunct professor in the Department of Human Biology and Nutritional Sciences (HBNS).

"This might be a challenge for non-institutionalized elderly people living alone, but should be feasible for the elderly in nursing and retirement bomes and hospitals, where dietary programs are in place."

The research team of Conquer; Prof. William Bettger and graduate student Julie Zecevic, HBNS; and Dr. Mary Tierney and Rory Fisher of Sunnybrook and Women's College Health Sciences Centre, examined blood samples from some 70 subjects living in the Toronto area.

Previous evidence had suggested that lower DHA levels serve as a predicting factor for Alzheimer's disease. The new findings confirm this and are the first to also link low DHA levels to other forms of dementia as well as cognitive impairments among the elderly.

"Low DHA levels are already affiliated with several disorders," says Conquer. "Given that our research indicates that decreased levels of DHA also appear to accompany cognitive impairment with aging, we think this is a sign we should all be eating more fish."

Conquer says the next stage in the research could be a supplementational trial that would look specifically at modifying the symptoms of people already suffering from Alzheimer's by administering fish oils with DHA and EPA (eicosapentaenoic acid) or an algae-based vegetarian source of DHA.

"After that, longer-term studies may include prevention trials — studying the effects of omega-3 fatty acids on the elderly over a course of 10 or 15 years," she says.

The HNRU conducts human trials on nutraceuticals, functional foods and natural health products, both independently and for the food and natural health product industry. The unit is also a learning and research centre for some 15 undergraduate, master's and PhD students in human biology and nutritional sciences, applied nutrition and biomedical sciences. Associate directors are Bettger and Alison Duncan. Prof. Bruce Holub, HBNS, cbairs the unit's scientific advisory committee.

*BY ALEXANDER WOOLEY*

# NSERC Boosts Science, Engineering Camp

*Funding will be used to develop new learning modules for S@GE*

U OF G'S POPULAR science and engineering camp, S@GE, now in its third year and co-sponsored by the Office of Open Learning, Hospitality Services and Student Housing Services, has received a $27,500 grant from the Natural Sciences and Engineering Research Council of Canada.

The grant will be allocated over three years and will be used to develop new learning modules that incorporate all aspects of science and engineering. The plan is to rotate the modules so that each year, S@GE offers students a new educational experience.

"This award is an affirmation of the quality of the program and a clear indication of how important these programs are to funding agencies," says Virginia Gray, director of open learning.

S@GE is also sponsored in part by Hewlett Packard (Canada) Ltd., which donated computer workstations.

Already, there will be some differences at this year's camp. "S@GE's focus is on science and engineering, but this year, we will also include programs designed by faculty in the College of Arts and College of Social and Applied Human Sciences that complement and enhance our themes," says Gillian Joseph, program development co-ordinator for the Office of Open Learning, which works with faculty on the development of the S@GE learning modules.

Campers will select one of two "streams" to focus on during their stay at Guelph. One stream will explore science, astronomy, food science, physics and geography. The second will focus on computers and the environment, engineering, optics, and nutrition and health. Now, in addition to the traditional science and engineering program, students will be allowed to choose electives that include the science of music, the history of science, science fiction writing and photography.

"These new modules will create a more holistic study of science this year by providing experiences that make learning about science even more interesting and fun," says Joseph.

About 1,000 Grade 7 and 8 students attend the S@GE camp each year. Students register as a school class, staying in residence with their teachers and chaperones and experiencing interactive learning using U of G computer and laboratory facilities. Registration bas already begun for the 11 sessions that run this year from May 7 to June 13. U of G graduate students belp teach the modules and also provide direction and supervision during recreational activities and meals.

"One of the things that makes S@GE unique is that we don't outsource for our curriculum," says Joseph. "It's our own faculty that develop the modules, so it's much more like the real experience of going to university."

For more information, call Open Learning at Ext. 3956 or register with Conference Services at Ext. 2353.

*BY LORI BONA HUNT*

# Reflections on The 'Unelection'

*"After trying unsuccessfully for so many years to gore Clinton's ox, they finally managed to axe his Gore."*

BY MAUREEN MANCUSO

ILLUSTRATION BY CHRIS VAN ES

THIS FALL, Americans were glued to their TV sets as a surprising political drama, full of unexpected plot twists and quirky characters, played itself out during the November sweeps season. The show certainly captured the attention of critics and the public alike, as the colourful characters and brisk pacing never ceased to surprise and confound expectations. Apparently even President Jed Bartlett and his dedicated *West Wing* staff were big fans of the fictional "Gore-Bush" contest, although they admitted that the scenario of a closely contested election, dangling like a pregnant chad on the slimmest of vote margins in a single, rather disreputable state, was somewhat hard to believe. Still, it was all so chillingly realistic . . . .

Actually, it wouldn't be surprising if Martin Sheen ended up with more write-in votes for president in November than the total difference of a few hundred that ultimately "decided" the 2000 election in Florida. Certainly his speeches were better written than those of Bush, Gore and their opposing armies of lawyers and spin doctors. But why would he want to give up a starring role on a hit show in exchange for what is likely to be one of the more challenging presidencies of the modern era?

*For a while over the holidays, it seemed as* though the U.S. elections really were over. The counting had stopped, the chads were all nestled snug in their beds, Gore had conceded, and the Bushes were measuring the White House for new drapes. But if you look closely, you can see the election is still far from settled. The Supreme Court may have, based on a few hundred of the hundred million votes cast, declared Bush the president-elect, but no one on the Democratic side is ready to treat him as a legitimate victor. Several members of the Congress actually walked out in protest during the ceremonial official certification of Bush's "victory." Even before Bush takes the oath of office, several of his proposed Cabinet appointees are being strongly challenged, and one — Linda Chavez, who made regular payments of money to an illegal immigrant who did odd jobs in her home but insisted that there was no relationship of "employment" — had already been toppled.

In interviews and public statements, both parties have tried to stress the word "bipartisanship." Bush's campaign claim that he was "a uniter, not a divider" was based on his supposed success at working co-operatively with Democrats in the Texas legislature. But to the Republicans, "bipartisanship" now seems to mean: "We won, so you gotta do things *our* way." And to the Democrats, it seems to mean: "You didn't really win, so *no way* are we going to do things *your* way."

Although both sides have tried to paint a picture of reconciliation, compromise and pragmatic co-operation, the bitter ideological fighting has already begun behind the scenes, and the confirmation skirmishes are just one outbreak. Most presidents can expect a short "honeymoon" after their inauguration. Having won the election with a minority of the popular vote, and facing a Senate split 50/50 and a House with the slimmest of majorities, George W. Bush should be preparing for the sort of bench-clearing brawl that his Texas Rangers used to get dragged into. And once the pretense of civility is discarded and the gloves come off, we should expect that the bitter divisions exposed in November will replay themselves and influence every issue for the next four years.

Some believe this is to be expected after an election that produces no clear winner. But that's not only true of the 2000 election. In fact, George Bush Sr. was the last president to actually receive more than 50 per cent of the vote, in 1988. Both Bush II and Gore this year got more votes than Bill Clinton did in either 1992 or 1996. And for every person now complaining that "W." has no legitimacy as president because of how he won, there was a whole crowd in 1992 claiming that Clinton could not be taken seriously as president because 57 per cent of the people had voted for someone else.

An astounding phenomenon of the last eight years has been the fervent and vehement opposition that Clinton has somehow engendered — quite unlike that incited by other chief executives. There were many people who detested Ronald Reagan, but it was largely because they thought he was simplistic and addled, not evil. Many people despised Richard Nixon because they considered him unethical and untrustworthy, but they weren't worried about his personal morals. Jimmy Carter was dismissed as an ineffectual wimp by his enemies, but he could bring himself to lust after women only in his heart: hardly a threat to the dignity of the president. But Clinton seems to inspire a whole new level of seething — and specifically personal — rage. Videotapes were distributed accusing him of several murders. House Speaker Newt Gingrich called him and his wife "the enemies of normal Americans." And whether or not there was "a vast right-wing conspiracy" at work, the impeachment spectacle demonstrated how far Clinton's detractors were willing to go. From the moment he took the oath of office, he has been subject to an almost continual barrage of allegation, investigation and campaigning to dislodge him from the office he was elected to.

Of course, much of this trouble has been richly deserved. When it comes to personal judgment, Bill Clinton practically defines the concept of "one's own worst enemy." And by drawing so much of Washington's attention and energy to the flaws in his character, rather than his positions and policy, Clinton seems to have changed the nature of American politics. Never admired for its in-depth analysis of issues, American political rhetoric seems ever more dominated by personal issues like character. When the impeachment efforts backfired on Gingrich and other congressional Republicans, it did so largely through personal attacks and revelations of moral missteps and scandals — several of them uncovered through the efforts of pornographer Larry Flynt. By fighting fire with fire, Clinton's defenders managed to burn away most of what passed for substance in the political debate. Still, Clinton was a true survivor, and most of his enemies were eventually voted off the island.

And that was precisely one of Al Gore's biggest problems. As vice-president, he had to campaign essentially on the record and achievements of the Clinton administration. He can be proud of many of his accomplishments, but what sticks in people's minds is the "Clinton-esque" behaviour. Richard Hatch was a very skilled spear fisher on that island in Indonesia, and that alone might have earned him his million dollars, but what everyone remembers is that he was a lying, manipulative weasel. And ultimately, Gore was so closely connected to his former boss that all the anti-Clinton forces could mobilize that reserve of personal antipathy. After trying unsuccessfully for so many years to gore Clinton's ox, they finally managed to axe his Gore.

In 1992, the Republicans were ready to make devastating attacks on Clinton's character and fitness for the position of Leader of the Free World, but he managed to redefine the central issue of the campaign with the catchphrase: "It's the economy, stupid!" The Democrats bet that dissatisfaction with a sluggish economy would distract voters from the occasional "Bimbo Eruption" and help them displace an incumbent president Bush. In 2000, Gore could credibly lay claim to having helped usher in an unprecedented period of economic expansion, and history suggests that the voters are more than willing to reward incumbents during good times. Yet the Republicans were able to focus the campaign on Gore's character and cast doubts on his integrity. Indeed, not only did they somehow manage to convert Gore's image from dreadful bore to suspicious schemer, but they also deflected the many questions that initially were asked about George W. Bush's personal morals. This was, after all, the George W. Bush who was pulled over for drunk driving, who refused to answer any questions about an alleged cocaine habit, the aging frat boy who waited until his 40th birthday to straighten up and get his life in order. In the Bush-Clinton race, the campaign naturally fit a "dull plodder versus slick charmer" pattern. But Bush Jr. seems a lot more like Bill Clinton personally, and Gore a lot more like Bush the First.

Jacques Parizeau once proudly admitted that part of the reason he believed Quebec would eventually gain independence was that the continual discussion of constitutional issues would become for the Rest of Canada like "a never-ending visit to the dentist," and that eventually sheer frustration and weariness would break down the federalist resistance. To many Canadians, the 1995 referendum — decided by less than one per cent of the vote — certainly felt like a drill digging into a raw nerve. The U.S. presidential election — closer still — may yet prove to be the American equivalent of this type of separatist dental torture. And if the political discourse continues to be dominated by matters of character and the bitter personal attacks that have characterized the 1990s — what several of its victims have condemned as the "politics of personal destruction" — then Clinton may turn out to be a figure who "haunts us still," as a sort of anti-Trudeau, a larger-than-life rogue whose genius for causing trouble and just barely escaping punishment ends up defining the political agenda for a generation.

For years after Trudeau retired, most of the issues in Canadian politics were still fundamentally shaped by his influence or reactions to it. If the "unelection" of 2000 is in reality just the latest salvo in the battle over Bill Clinton, we may be in for a long and bumpy ride, and Clinton's legacy may not be in a realignment of the parties, but in an escalation of partisanship. And remember, the Clintons still have a job in Washington, and Bill will have a lot more free time now.

Prof. Maureen Mancuso is associate vice-president (academic) and a faculty member in the Department of Political Science.

PROFILE

# An Inquiring Mind

*Zoology prof finds fascination in his explorations of inner and outer truths*

A central aim of higher education is to foster an appreciation of various ways of knowing or forms of inquiry. It's one of the formal learning objectives of U of G. And it's a principle that zoology professor Denis Lynn embraces.

Lynn first came to U of G as a student in the 1960s to pursue his ambition to become a marine biologist — a career path inspired by the exploits of his childhood hero, Jacques Cousteau. While on a summer research job in Newfoundland, he became enamoured of the microscopic one-celled organisms known in scientific circles as ciliated protozoa and moved to the University of Toronto to earn his doctorate. These "fuzzy little creatures," as Lynn describes them, resemble a tiny version of the hairy tribbles that so plagued Captain Kirk in one memorable *Star Trek* episode.

PHOTO BY DEAN PALMER/THE SCENARIO

Lynn's reason for studying these protozoa is simple: "I think they're neat. They're both a cell, like a single element of our body, and, unlike our cells, they also function as a complete organism. They are found all over the world, in rivers, lakes, oceans, polar ice, hot springs and even desert soils. There are about 1,000 to 10,000 per litre in Lake Ontario water in the summer. We don't know for sure, but I like to think that at one time in Earth's evolution, they were the top guys in the food webs of the world. Now they've been replaced by multi-celled organisms, but ciliates are as good as a uni-cell can get. Structurally, they probably have the most complicated cellular skeletons of any cells on Earth."

Lynn explored the cell biology of ciliates during a postdoctoral appointment in Scotland and returned to U of G as a faculty member in 1977. He passed up a job offer at the University of Toronto to do so, partly because of the academic environment at Guelph and partly because he and his wife wanted to raise their two young boys, Francis and Robin, in a smaller city.

In the years since, Lynn and his research team have probed the ecological role of ciliates in marine and fresh waters, have discovered more than 30 new species of ciliates, and have tested hypotheses about evolutionary relationships within the group using electron microscopy and gene sequences. This year, he plans to publish a major book chapter that will be an illustrated guide to more than 600 genera of ciliates. He is also editor-in-chief of the International Society of Protozoology's *The Journal of Eukaryotic Microbiology* (his wife, protozoologist Portia Holt, is the managing editor), which publishes more than 100 original articles annually. In addition, Lynn serves on the editorial boards of several other journals.

Natural history has always been an interest of his. It's a form of inquiry that started out at the centre of "biology," really before biology was conceived of as a discipline, and is now regarded by some as no longer a "hard science." Whether natural history is an art or a science forms part of the focus of the first chapter in the course reader *Natural History of Ontario* that Lynn and other zoology faculty and staff members have written for a new distance education course of that title.

"The majority of students who come to Guelph are from Ontario," Lynn says. "In our department and college, we generally focus on principles and not on places. I think it's important that we provide students with an opportunity to know something about the place in which they live."

His enthusiasm and devotion to his scientific pursuits are balanced by a longtime interest in music. He plays the guitar, harmonica and recorder and sings in the St. George's Anglican Church choir. Inspired by his family's Suzuki music experience, he is also intent on ensuring that as many young people as possible in Guelph have the opportunity to experience music and the performing arts. He has been involved with the Guelph Youth Music Centre Inc., a charitable organization with a $1.2-million target to renovate a Cardigan Street facility by this September. Lynn, the group's secretary-treasurer, says the centre is about $300,000 short of its goal and is seeking a champion in the Guelph corporate community to help on this last stretch. "We estimate 1,500 children will use it regularly," he says. "Fundamentally, music is a community activity, and we seek to raise the profile of the arts as an enjoyable recreational activity for children and youth. Music is one way we communicate with each other — from the heart."

Lynn's interests also extend to contemplation of the human condition. "The scientific method of experiment and analysis focuses on discovering the truth about the world around us, but there are other forms of inquiry that fascinate me. They have to do with understanding the 'inner' worlds and how individual human beings should function on planet Earth in the short time between birth and death. Those are forms of inquiry that have a tradition going back thousands of years — the development of the individual through the transcendence of self." He quotes Einstein, who said: "The true value of a human being is determined primarily by the measure and sense in which he has attained liberation from the self." Lynn says the development of the individual through transcendence of the self is "the most difficult challenge in human development and one that has fascinated me for over 20 years."

He adds that this is not an irrelevant issue for universities, which he believes have a duty to go beyond teaching students the nuts and bolts of a particular discipline. "Teamwork and co-operation are becoming more important as the problems of the world become more complex," he says. "There are so many different perspectives to each problem, but effective communication and understanding can take place only if you are first able to step outside your own particular perspective. And isn't this a form of transcendence of the self?"

This philosophy permeates Lynn's approach to teaching, and his students appreciate it.

"I think he's an outstanding teacher," says Pamela Wesley, who took Lynn's "Research in Zoology" course in the fall and is currently in his "Invertebrate Zoology" class. "He is highly approachable. He frequently asks whether students understand the material. He discusses course objectives and presents the students with all they need to meet these objectives."

Wesley notes that "Research in Zoology" students are required to read Stephen R. Covey's *The Seven Habits of Highly Effective People*. "All that I got out of this book simply adds to the long list of skills and information that I acquired by taking this course," Wesley says.

Fourth-year zoology major Briar Howes also "thoroughly enjoyed" the two courses she's taken from Lynn.

"He was always very organized, and his attitude toward teaching was incredibly optimistic and upbeat. He was always open to helping students out, and even took the time to read over our final term papers before they were due and offer his advice. He is extremely personable and encouraged interaction and learning through participation."

From Lynn's perspective, the more opportunities U of G provides its students to develop "soft skills" such as empathic listening, the better. "It will enable our graduates to make more effective contributions to the future of our society and planet."

# Technology Driving Growth, But Slowing Economy

*Economists find that most of Canada's economic gains since mid-1970s are due to the development of cutting-edge technology*

Technology has been driving Canada's growth for the past few decades, but it is also to blame for the country's economic slowdowns, according to two new studies.

Research by Prof. Stephen Kosempel, Economics, and Kenneth Carlaw of the University of Canterbury, New Zealand, shows there is actually a negative relationship between certain types of technology and output in the Canadian economy.

Kosempel says it is mostly due to the simple fact that skilled labour has a hard time keeping up with the pace of the advancement.

The studies, under review by the *Journal of Economic Growth*, used unique modelling techniques to draw such conclusions and are the only ones based on Canadian rather than U.S. rates of technological change and growth.

"We found that periods of low productivity growth correspond to periods of high technological change," says Kosempel. "During periods of rapid change, older skills become obsolete, and people need to be retrained. This means that investment in new technology is all front-end-loaded. The payoff to such an investment occurs in the future as the technology matures and learning by doing occurs."

For their research, Kosempel and Carlaw created an economic model that mimicked Canada's economy. They found that most of the country's economic gains since the mid-1970s are due to the development of cutting-edge technology.

"The 1970s signified the beginning of an era of rapid technological progress," says Kosempel. "This was associated with the development of information and communication technology, robotics and microchip technology. Yet these technological advances had a negligible impact on productivity growth, and we wanted to find out why."

Kosempel and Carlaw found that between 1961 and 1973, income per capita in Canada grew at an average rate of 3.3 per cent, but slowed between 1974 and 1996 to about 1.1 per cent.

The reasons include the lack of people skilled to operate the advanced developments, and the fact that Canadians invest less in equipment than Americans do, which means Canada receives fewer benefits from improvements to technology embodied in capital goods.

Although the differences in growth levels may seem small, Kosempel says that had growth continued at the higher rate throughout the entire 40-year period, Canada would have topped the list of the world's wealthiest countries. By comparison, if growth never crept above 1.1 per cent, Canada's world-wealth ranking would have dropped from fifth to 18th.

"It's clear that very small differences in growth rates have significant implications for economic performance over time," Kosempel says.

*BY LORI BONA HUNT*

# LETTERS

## GUELPH IS A LEADER

Congratulations to the University team who helped put together the biotechnology education display that won an award at the Royal Winter Fair. It was a perfect combination of information, visuals, demonstrations and helpful people. The monarch butterflies and the onion demonstrations helped stimulate conversation and put some real-life examples of biotechnology into perspective for the public.

In an ideal world, every university would put similar efforts into explaining science and research to the general public. Once again, I'm proud to say Guelph is a leader.

Crystal Mackay
OAC '92

## THE MIND BOGGLES

After 30 years at Guelph, I never thought to be surprised by anything done here. Not so. The new engineering extension and plaza are right next to my office.

During construction, I thought the structure looked a bit shaky — and did not get a very encouraging response from the Engineering Department itself. Now that it's built, it appears to be made of glass, which forms both inside and outside walls down to ground level. One pane has already been partly smashed at the northern entrance; inadvertent collision with ladders, vehicles or people could finish off panes and people together.

Inside, banks of large "artistic" glass panels are supported by two bolts directly above the corridors — in just the right position to slice someone in two lengthwise should the glass fall or break.

It's been said that "people in glass houses shouldn't throw stones." In the new engineering extension, I would be careful how I breathed, what I carried and how I moved about (face forward against the inside corridor walls).

And how much will it cost to heat and cool it? To think that a supposedly rational person could approve of such a structure beggars belief.

And so on to the plaza — in summer a baking wind-swept desert, in winter a frozen inaccessible wasteland (its only possible uses — skateboarding and curling — are, of course, forbidden). This wonder manages to be both hideous and dangerous at the same time. Two applications of vast amounts of hydrochloric acid have rendered the surface less slippery and destroyed it at the same time. (I presume with our commitment to the environment, we did not worry too much about the acid entering the drainage system.)

Other nice features are the steep slopes towards the adjacent buildings and the two interior drains, obviously designed to funnel melt water towards drains blocked up with slush during spring melts and flood the only slightly higher ground floors of the adjacent buildings (I had better invest in some sandbags and store everything in the office two feet above the floor). Accompanying basement flooding should destroy all the unnecessary scientific samples stored there and should also make for some nice fireworks with electrical shorts and, with any luck, fires.

At the same time all this was going on, the housekeeping staff were considering strike action because they (like technical staff) are poorly treated, overworked (with resulting injury) and underpaid. Guelph is supposed to be one of the better-administered universities — the mind boggles.

Prof. Michael Brookfield
Department of
Land Resource Science

## IS THERE NO ROLE FOR PRECAUTIONARY PREVENTION?

The issue of the west Antarctic ice-sheet is far from resolved, unless Prof. Ross McKitrick knows something that my glaciologist colleagues don't. Petit et al (*Nature*, 1999) don't claim to prove that the west Antarctic ice sheet "has not collapsed in any of the previous five interglacial periods" (McKitrick). Instead, they make the following statement: "The climate record makes it unlikely that the west Antarctic ice sheet collapsed during the past 420 kyr (or at least shows a marked insensitivity of the central part of east Antarctica and its climate to such a disintegration)." And Scherer et al (*Science*, 1998) do find evidence for a collapse of the ice sheet, most likely 400 thousand years ago. Is this misrepresentation of the literature typical for economists?

More important, Ross McKitrick fails to mention that sea level during the last interglacial (the Eemean) was five to six metres higher than present. Where did all this water come from? The only possibilities are some mix of west Antarctic and Greenland ice sheet meltdowns.

And further on the point of misrepresentation, I have never dismissed the solar-climate link as Ross McKitrick states in *@Guelph* Oct. 25). I only stated that his citation on the topic was outdated. And Ross, please do not mix up solar-cycle length (which was the topic of your citation) with solar output. The two have little correlation, and given the lack of any known physical mechanism for solar cycle length to affect climate, correlation does not imply causation.

The professor appears to accept (or at least strongly favour) only a compensation-based insurance policy for global warming that is cheap and that pays out "in the event of a disaster." What amount of compensation would cover a major dieback of the world's coral reefs, 27 per cent of which have already been "effectively lost" (Pockley, *Nature*, 2000)? Individuals and governments carry out precautionary behaviour such as locks on doors, vaccinations and expensive testing of food additives to "ensure" they are safe. When dealing with the possibility of significant societal-induced climate change that could have major effects on the Earth's ecosystems (of which we are a part), is there no role for precautionary prevention?

P.S.: Ross, we do agree on one thing. A carbon tax would be the most market-efficient means to promote reduction in anthropogenic carbon dioxide emissions. Could you please send a letter to this effect to the PMO?

Lev Tarasoff
University of Toronto

## WON'T SOLVE THE PROBLEM

Prof. Ross McKitrick denies that the "rearrangement of our economic priorities" is necessary to mitigate against what the UN Intergovernmental Panel on Climate Change has described as a "catastrophic runaway climactic destabilization" from greenhouse gases emitted by cost-reducing, profit-maximizing economic activities, of which he is an ideological defender.

This may bring him research grants from the corporate market agents he speaks for, but it will not solve the problem. It will continue to conceal and abet its damages to the rest of humanity and planetary life.

A pity from a U of G faculty member.

Brendan Myers
Department of Philosophy

## LETTER RESPONDED ONLY TO REPORT

It was unfortunate that Tom Lane and Murray MacGregor (*@Guelph*, Dec. 6) criticized my Nov. 8 letter apparently without reading it! Even a casual look at it would have shown that it was a response to a report published in *@Guelph* Oct. 11 and hence it dealt only with the topics included in that report. Tom and Murray raised another topic that was not part of the Oct. 11 report and was therefore not part of my response.

It is unfortunate that their letter was written in a way that may distract readers from debating the interesting topic they referred to. It involved the mixing of CPP and University pensions, which has been discussed on other occasions.

One could raise other topics as well. For example, the change from five-year to three-year averaging in calculating a pension could have been applied to retirees also, but was not. Was this fair?

Perhaps retiree readers of *@Guelph* would like to comment on these two matters and any other pension items that are of interest to them.

Prof. Peter Egelstaff
Former chair,
UGRA Pension Committee

* * *

*Editor's note:* The Dec. 6 letter from retired OAC professors Tom Lane and Murray MacGregor contained an error. The letter should have read: "To be fair to all retirees and surviving spouses, the pensions of all retirees must be at the same level of pension benefits before the deduction of CPP benefits is exercised at age 65; i.e., *two* per cent per year of service, fully indexed."


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# Apple Researchers Get to the Core of New Varieties

*Award-winning project makes it easier for growers to choose most profitable and appealing cultivars*

ONE BAD APPLE may not spoil the whole bunch, but one bad variety of apples could be a major blow for Canada's $175-million apple industry.

An award-winning research program involving U of G researchers is making it easier for growers to choose the most profitable and appealing varieties to plant.

Since its inception in 1995, the "Multidisciplinary Evaluation of New Apple Cultivars" project has evaluated 50 new apple varieties that are most likely to affect the Canadian and U.S. apple industry's future and appeal to changing consumer demands domestically and internationally.

"This is our industry's crystal ball into the future," says John Cline of the Simcoe research station, who, along with Charlie Embree at Agriculture and Agri-Food Canada (AAFC) in Kentville, N.S., and Cheryl Hampson at AAFC in Summerland, B.C., oversees research at Canada's three test orchards.

"Research orchards provide a focal point for growers and industry representatives to actually see and evaluate these new cultivars firsthand under their specific growing environments," says Cline. "They also provide one of the most authoritative and objective sources of information that a grower can obtain prior to planting a new orchard."

Establishing a new orchard can cost more than $10,000 an acre, and most orchards require at least six years to reach full production.

"Selecting cultivars for new plantings is one of the riskiest decisions an apple grower must make," says Cline. "Our project provides Canada access to new cultivars that would be difficult to obtain otherwise."

The program's extensive research — evaluating apple varieties originating from Canada, the United States, Europe, New Zealand, Australia and Japan — received recognition in November with the NERA 2000 Award of Excellence from the Agriculture Experiment Station Directors of the Northeast at their annual meeting in Wooster, Ohio.

The collaborative project involves Ontario, British Columbia, Nova Scotia and 21 U.S. states. Apple cultivars are tested for taste, texture, firmness and storage potential, as well as ease with which they can be managed and harvested. Pathologists and entomologists look at which cultivars are susceptible to fungal and bacterial damage and insects — information that can help growers select more sustainable production systems. The project also compares the cost of production and profitability of new apple cultivars.

The list of 23 cultivars in original 1995 plantings included Braeburn, Fuji, Ginger Gold, Honeycrisp, Fortune and several advanced-breeding selections from British Columbia, New Jersey and New York. In 1999, project participants planted 22 additional selections, including Ambrosia, Autumn Gold, Chinook, Delblush and Zestar.

Before the project was initiated, evaluations were often conducted informally, and results were rarely published in scientific journals. Trials were seldom co-ordinated across broad geographic regions, nor could data be directly compared because of differences in planting dates, rootstocks used, combinations of cultivars chosen for evaluations and data collection methods.

"This new approach means that considerable efficiency in total effort and improvement in the type and quality of information generated are achieved," says Cline.

*BY ALEXANDER WOOLEY*

# Book on Food Issues to Foster, Inform Public Debate

*Continued from page 1*

eat and how it is produced," he says. "Food Eden isn't necessarily seen as a human paradise. While my book will adhere to the highest academic standards, its explicit purpose is to foster and inform public debate, not only among politicians, but among ordinary Canadians." The fellowship began Jan. 2.

Strauss, who has won numerous awards for his science writing, is also the author of three books as well as a book chapter on biotechnology and the media. For a number of years, he was a contributing writer to MIT's *Technology Review Magazine* and is currently an advisory board member of the Statistical Assessment Service in Washington, D.C. Strauss has a BA in history from the University of Colorado, where he also received a Ford Foundation Scholarship.

*BY ALEXANDER WOOLEY*

# PREAs Allow Gifted Young Faculty to Expand Scope

*Continued from page 1*

in particular how ecology may drive the formation of new species in Canada's northern lakes.

"Because I study the origins of biological diversity, this research has potential conservation consequences, particularly that conservation and management measures should focus on the locally adapted population and not some arbitrary typological concept of species that may or may not fit into the ecology of a local area."

The PREAs were established by the provincial government to boost investment in innovative research. The awards allow gifted young researchers to expand the scope of their work by attracting graduate students, post-doctoral fellows and research associates to their programs.

"Graduate students are at the core of research in universities," says Robinson. "They do the legwork and often stimulate the adviser into new directions not previously anticipated. This type and level of funding are extremely rare for new faculty like myself, particularly when it is directed towards the salary costs of graduate students and post-docs. To its credit, PREA is one of the few programs in Canada that targets graduate-level scholarship."

Boulding's research focuses on developing and testing theories that predict when invading exotic marine predators from the subtropics, which have extended their geographical range northwards because of human activities such as global warming, will cause the extinction of native Canadian species. The research into evolutionary ecology is critical, she says.

"Unfortunately, prey species native to Canada have not evolved defences against such specialized predators and may go extinct unless they can quickly adapt."

Much of Boulding's research, which includes developing complex mathematical models involving spatial arrangements, genetics and population dynamics, is basic. "Without the solid theoretical background from basic research, our applied research would be less innovative," she says.

Mangroo will use his PREA support to hire one post-doc and one graduate student in his lab, where he examines the inner workings of cell reproduction, an essential function of the human body. Using new genetic and biochemical approaches, he is investigating tRNA export from the cell nucleus to the cytoplasm, as well as trying to identify the proteins that mediate the process.

De Lange is studying the protein metabolism in growing pigs, particularly the impact of microbial activity in the digestive tract on protein metabolism in digestive organs. The studies will have implications for monogastric animals and humans.

De Lange sees his PREA as "a very special acknowledgment of the hard work of the graduate students, technicians and post-doctoral fellows in my group over the last six years and recognition that our plans for future research are highly relevant to society and of considerable quality."

Klironomos's work involves the biology and ecology of soil microorganisms. "I'm investigating the role of mycorrhizal fungi in terrestrial ecosystems, especially how they help maintain and stabilize plant communities with high diversity. My lab is also testing to see if these fungi can be useful in the restoration of plants in landscapes after severe disturbance."

Klironomos says the PREA funding supports two areas that are in need of a boost: basic research and hiring scientists to make those discoveries. "My award will be used to hire post-doctoral researchers. It is very difficult to afford post-docs in Canadian research programs dealing with basic science, so this is a great opportunity to collaborate with other young microbial ecologists with novel ideas and approaches. Ultimately, I expect a heightened quality of science."

Poisson's study of general relativity will lead to an increased understanding of the interior of black holes, in particular how gravitational waves are produced and propagate in strong gravitational fields.

Prof. Larry Milligan, vice-president (research), says Guelph's success in the two latest PREA rounds "testifies to the incredible breadth of basic and applied research programs under way at Guelph, as well as to the quality of the gifted young faculty who are leading this inquiry. The PREA program continues to provide researchers with invaluable funding to take their programs to the next level and to attract other bright young researchers to these endeavours. This funding is crucial in terms of the work it supports and the people it brings to this university and universities across the province, and is much appreciated."

*BY ALEXANDER WOOLEY*


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# New Members Sought for Job Evaluation Committees

HUMAN RESOURCES invites employees in the exempt, faculty and professional/managerial groups and the U of G Staff Association to consider serving on a University job evaluation or steering committee. A number of membership terms on various committees will soon be ending, says job evaluation co-ordinator Angie McLaughlin.

She notes that now that all of the former Ontario Ministry of Agriculture, Food and Rural Affairs positions have been evaluated, "most job evaluation committees are in a maintenance phase, which means that the demands of serving on a committee will be less than in the past few years."

Anyone who would like to be considered to serve on a committee should contact his or her group executive or McLaughlin by Jan. 31. Training will be provided to all new members and is expected to begin in the next few months.

McLaughlin says the University is grateful to all those employees who have served on job evaluation and steering committees in the past.

"Their contributions of time and service on these joint union/management committees have helped the University ensure equal pay for work of equal value," she says.

"The University also acknowledges and thanks supervisors who enable staff to serve on these committees."

For more information, call McLaughlin at Ext. 6703.

# Development Opportunities Include New Offerings

THE ARRAY OF PROGRAMS being offered this semester through Human Resources' faculty and staff development opportunities is as varied as the learning needs on campus, says training and development co-ordinator Karen Kovats.

Many courses are back by popular demand, such as "Thinking Out of the Box," "Microsoft Access '97" and "Working Alone," says Kovats, but there are also a number of new offerings. One new program of particular interest to faculty is "Teaching and Learning at a Distance" conducted by the Office of Open Learning for those who develop distance education courses.

Also new this winter are seminars on "Web Site Design and Theory," to be led by the manager of U of G's Web site, and "Issues of Liability and Due Diligence," being offered jointly by the University's manager of environmental health and safety and the judicial officer.

Computing and Communications Services is also offering a number of new seminars, including "Maximizing Use of Windows" and "Getting Around Excel," as well as some statistical packages.

Kovats says campus supervisors are encouraged to meet with their employees to specify learning needs and identify seminars related to them.

"Individual seminars can help improve the on-the-job skills and knowledge of participants and are very worthwhile, but if several sessions are grouped together in a package, the learning can be even more effective," she says.

"If there is a need for communications training, for example, a person could take sessions in interpersonal communication, writing, public speaking and intercultural communications, along with other related courses such as assertiveness, anger and conflict management and mediation."

She adds that although the seminars are designed to develop job skills, "the learning is transferable to any area of life."

The training and development programs benefit from a combination of on-campus and external expertise, says Kovats.

"Many of our external training consultants are nationally or internationally known as keynote speakers or seminar leaders," she says. "Programs specific to U of G are offered by knowledgeable in-house facilitators."

Registration for the programs is on a first-come, first-served basis. It begins Jan. 25 and will continue throughout the semester. For more information, check out the booklet distributed by Human Resources through campus mail or on the Web at www.uoguelph.ca/HR/training/index.htm.

# OVC Hosts U.S. Cell Biologist

THE DEPARTMENT of Biomedical Sciences and OVC have received a grant from the Burroughs Wellcome Foundation to host cell biologist John Herr of the University of Virginia Medical School for a series of lectures and workshops in the basic medical sciences.

Herr is a leading proponent of proteomics (the study of the products of the genome that are functional at a given time) and has made major contributions to knowledge of the cellular and molecular biology of spermatogenesis and fertilization.

On Jan. 30, Herr presents "From Basic Sperm Biology to Commercialization of a Diagnostic Procedure" at 9:30 a.m. in Room 1747 of the OVC Lifetime Learning Centre. On Jan. 31 at 12:30 p.m. in OVC 1714, his topic is "The Development of Recombinant Miniantibodies as Targeting Vectors." On Feb. 1, he discusses "Proteomics: Discovery of Contraceptive Vaccines in the Post-Genomic Era" at 9 a.m. in OVC 1713.

Three discussion groups/workshops will also be held. For more information or to arrange a meeting with Herr, call Prof. Ann Hahnel at Ext. 8399 or send e-mail to ahahnel@uoguelph.ca.

# Learning Commons Earns Kudos for Web Workshop

"LEARNING TIME," a Web-based workshop on time management being piloted by the Learning Commons in the U of G Library, received an honourable mention in the single-course category at the annual international conference of North American Web (NAWeb), a network of Web courseware developers originating at the University of New Brunswick.

Located at www.webshops.uoguelph.ca/learningtime, "Learning Time" was designed and developed by Maryann Kope, co-ordinator of Learning Services, with the assistance of former student Venk Chandran and support from a student life enhancement grant. Sites nominated for the NAWeb award were evaluated on their navigation, content, design, style, innovation, interaction, efficiency and flexibility.

This is the second Learning Commons Web resource to earn recognition recently. One of the Fastfax series, "Making a Task List," was selected as a Links2Go "key resource" in time management. Links2Go selects Web pages as a key resource using an objective statistical measure applied to an extremely large data set. Fewer than one page in a thousand is selected, and "Making a Task List" ranked in the top 10 of time management resources. The Fastfax series can be accessed at www. uoguelph.ca/csrc/learning/fastfax3. htm.


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Stairmaster, electronic and time counter, adjustable tension, good condition, 856-0352 evenings.

Frigidaire gas range, Kenmore heavy-duty washer, water softener, Lawry organ, 824-1908.

KitchenAid Superba washer, top of the line, extra-large capacity, heavy-duty, three-speed, five years old, excellent condition, 822-2904 or 837-7990.

Magic Chef fridge, Inglis washer and dryer, all in good working condition, 836-0125.

2000 Dodge Neon LE, standard, air, cassette, excellent condition, 10,700 kilometres, 823-2192 or send e-mail to andre@snowhite.cis.uoguelph.ca.

1999 Jeep TJ Sport, 75,000 km, price negotiable, 821-5483 or send e-mail to simamatt@uoguelph.ca.

Three-bedroom country home on one acre near Elora, two baths, office, in-ground pool and spa, cathedral ceilings, many extras, 846-9244.

## FOR RENT

Basement room with four-piece bath, shared laundry and kitchen, 10-minute drive to campus, $450 a month inclusive, 837-8174 or send e-mail to dottier@uoguelph.ca.

Room for quiet mature student, shared kitchen and laundry, private bath, living room, $400 a month inclusive, 821-9219.

Room for female student or young professional in Kortright/Scottsdale area, laundry, dishwasher, parking, no pets, non-smokers, $370 a month plus utilities, available immediately, 780-0571.

## WANTED

Professional couple with two-year-old daughter needs three- or four-bedroom home in downtown area for September, moving from Vancouver, send e-mail to leanne.shafir@ag.gov.bc.ca.

Ride between Hamilton and Guelph, Monday, Wednesday and Friday, willing to share costs, Juliette Merritt, 905-527-1694 or send e-mail to merritt@mcmaster.ca.

Used moped, must be 50cc or under in working order, Nick, 836-7506 or send e-mail to nanbeek@home.com.

Used four-drawer filing cabinet, Ext. 2965.

## AVAILABLE

Child care or elderly care for days or weekends, Violet, 824-4491.

Free to good home, 10-month-old husky/shepherd pup with crate and toys, well-behaved with level-one training, friendly, needs fenced backyard, 829-3224 or send e-mail to dcouture@uoguelph.ca.

2001 Canadian dressage calendars featuring photos of Canada's top dressage talent, proceeds benefit the Canadian International Dressage Riders Association, Cecily, Ext. 4143 or send e-mail to cstrutt@ovc.uoguelph.ca.


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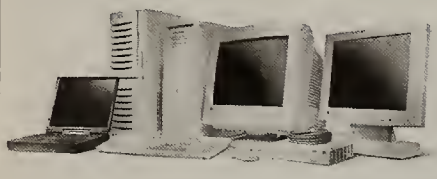
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# EVENTS

## ARBORETUM

Naturalist Chris Earley will lead an all-day adult workshop on owls Jan. 31, to be followed by an evening owl prowl. Cost is $63. Registration and payment are required by Jan. 24.

Theatre in the Trees presents the dinner-theatre comedy *Something for Charlie* by Neville Bryant Saturdays beginning Feb. 3. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are $49 and are available at Ext. 4110.

The Children's Trio presents *The Happy Prince*, a musical adaptation of the Oscar Wilde story, Feb. 6 at 6:30 p.m. at the Arboretum Centre. Tickets are $5 and are available from Simply Wonderful and the Arboretum at Ext. 2113.

## ATHLETICS

Basketball Gryphons host Windsor Jan. 20 and Wilfrid Laurier Jan. 31, with the women's team playing at 6 p.m. and the men's team at 8 p.m. The teams host Western Jan. 27, playing at noon (women's) and 2 p.m. (men's).

The men's hockey Gryphons are at home to Toronto Jan. 20 at 7:30 p.m. The women's team hosts Laurier Jan. 27 at 1:30 p.m. and Ottawa Feb. 2 at 7:30 p.m.

U of G hosts the Guelph open wrestling tournament Jan. 20 beginning at 9 a.m.

Guelph's swimming team is at home to Brock and McMaster Jan. 26 at 8:30 a.m.

## CONCERTS

The winter Thursday noon-hour concert series opens Jan. 25 with pianist Andrew Gilpin and Peter Stoll on clarinet and bass clarinet, performing Canadian, U.S. and Australian music. On Feb. 1, pianist Alexander Tselyakov performs works by Sergei Rachmaninoff. The concerts are held in MacKinnon 107.

## CONFERENCE

U of G hosts the 20th annual Organic Agriculture Conference Jan. 25 to 28. Keynote speaker is Prof. Ann Clark, Plant Agriculture, who will discuss "The Road Ahead for Organic Agriculture." Clark will also be a panellist for the conference's annual public forum, which this year will focus on "The Global Challenge for Organic Farming Systems." For more information, call Ext. 2558 or visit the Web site www.gks.com/OrgConf.

## LECTURES

The winter session of Third Age Learning-Guelph's lecture series for retired people continues Jan. 17 with retired history professor Gil Stelter discussing "Rome: The City That Ruled the World" at 10 a.m. and Prof. Michael Dixon, Plant Agriculture, on "Taking Canadian Greenhouse Technology to Space . . . and Back" at 1:30 p.m. On Jan. 31, Stelter discusses "London: The First Great Modern City" at 10 a.m. and Prof. Karen Wendling, Philosophy, considers "Ethical Perspectives on New Reproductive Technologies" at 1:30 p.m. Lectures are at the Arboretum Centre.

## NOTICES

The Hammond lectures presented on campus during the fall by the Faculty of Environmental Sciences are being broadcast on CBC Radio's *Ideas* program this month, running Wednesdays at 9 p.m. The Jan. 17 program features William Fyfe's talk on "Needed New Systems for Truly Sustainable Life Support and a Positive Planetary Experience for All People." The series continues Jan. 24 with Sandra Postel on "Water, Population and Environment: Challenges for the 21st Century" and Jan. 31 with Ron Brooks on "Earthworms and the Formation of Environmental Ethics and Other Mythologies: A Darwinian Perspective." The lectures will also be published, together with critiques by U of G faculty, by mid-February.

The Health and Performance Centre presents "Comparing Diets: Choosing the Right One for You" Jan. 23 at 6:30 p.m. The session is free, but a monetary donation to the Guelph Food Bank would be appreciated. Space is limited. Register at tmartella@hotmail.com or call Ext. 3278.

The Stress Management and High Performance Clinic offers classes in relaxation and stress management skills beginning Jan. 23. Three one-hour sessions are available — 12:30 p.m. in UC 442, 5:30 p.m. in OVC 1708 and 8 p.m. in UC 442. Classes run Tuesdays and Thursdays for six weeks. Cost is $40 for U of G students, $60 for UGSA members and $120 for community members. The clinic is also offering a five-session program aimed at promoting better sleep Fridays at 1:30 p.m. in UC 390, beginning Jan. 19. Cost is $20 for U of G students, $50 for others. For more information, leave a message at Ext. 2662 or visit the Web site www.uoguelph.ca/~ksomers.

The U of G/OMAFRA research program invites submissions for new research proposals from faculty and college researchers. Proposals are especially encouraged from those who have not previously participated in the U of G/OMAFRA agreement. Proposals must address program goals approved by the Agricultural Research Institute of Ontario and must be submitted in a specific format by Jan. 31. For more information, visit the Web site www.uoguelph.ca/Research (click on "Bulletin Board") or call the office of the executive director of agri-food research programs at 826-3809.

A graduate student in the Department of Family Relations and Applied Nutrition, working under the supervision of Prof. Judy Sheeshka, seeks participants for a study examining consumers' perceptions of the risks and benefits of a new food technology. The study involves a one-on-one interview that will take 60 to 120 minutes to complete. Compensation of $50 will be provided. Everyone is welcome to participate. For more information, call 831-8052 or send e-mail to ilambrak@uoguelph.ca or ilam@look.ca.

Guelph-Wellington Master Gardeners present "Growing Concerns . . . A How-to Series" Jan. 31 and Feb. 7 from 7:30 to 9 p.m. at the Guelph Turfgrass Institute. Discussion Jan. 31 will focus on soil preparation, colour, structure, texture and shape in the residential landscape. The Feb. 7 session will offer a beginner's tutorial on propagating plants from seeds, cuttings and layering. Cost is $7 for one session, $10 for both. To register, leave a message at Ext. 6714.

The Ecumenical Campus Ministry offers a one-day retreat Jan. 20 at the Arboretum as an opportunity to find and maintain a balanced approach to life and work. The session will be led by ecumenical campus minister Lucy Reid and therapist and dance teacher Claudia Otto. Cost is $20. To register, call Reid at Ext. 2390.

The Ontario Institute of Agrologists presents "Agri-Food Initiatives: Positive Measures and Practical Solutions" Jan. 22 from 8:30 a.m. to 4:30 p.m. at the Conference Centre at 1 Stone Rd. W. The day will feature a keynote speaker, panel discussion and small-group workshops. Cost is $120, $60 for students. For information, call 826-4226.

The YMCA-YWCA of Guelph is calling for nominations for its 2001 Women of Distinction Awards. Nominees are sought in the categories of arts and culture; business, labour, the professions and entrepreneurs; voluntary community humanitarian service; education, training and development; science, technology and environment; wellness, health and active living; lifetime achievement; and young woman of distinction. Nomination deadline is Jan. 31 at 11 p.m. For a nomination package, call Marie Leone at 824-5150, Ext. 225, or visit the Web site www.guelphy.com.

## SEMINARS

The biochemistry seminar series continues Jan. 18 with Michael Skalski, Chemistry and Biochemistry, examining "Bioenergetic and Metabolic Changes During Apoptosis in Mouse Liver" at noon in MacNaughton 222.

The Department of Microbiology graduate student seminars begin Jan. 19 with Mike Cottrill discussing "Antimicrobial Peptides" and continue Jan. 26 with Valerio Matias explaining "Structural Studies of Membrane Vesicles" Jan. 26. The seminars begin at noon in Food Science 128.

Next up in the Department of Physics seminar series is a talk by Prof. Robert Brooks on "Low-Energy (AMO) Physics Using Storage Rings" Jan. 23 at 4 p.m. in MacNaughton 113.

The Department of History presents Bonnie Callen of the Wellington County Museum and Archives and Lawrence Grant of Guelph Museums discussing "Historical Museums in the Contemporary World" Jan. 25 at 10 a.m. in Thornbrough 1158.

"Environmental Assessment" is the focus of the Department of Botany's plant biology seminar series, with Ronald Brecker of Global Tox discussing the "History of Toxicology" Feb. 2 at noon in UC 429.

## TEACHING SUPPORT

Teaching Support Services' winter series of training and development opportunities for faculty, teaching staff and those who support instruction on campus kicks off Jan. 18 with "HTML I: Creating Basic Web Pages" and continues Jan. 23 with "The Web as Learning Environment" and Jan. 31 with "Design Café" and an ID grant information session. Upcoming topics are "Choosing the Right Tool: Using Technology to Enhance Learning" Feb. 2, "Web-Based Assessment" Feb. 7, "PowerPoint I: The Basics" Feb. 13, "HTML II: Looking Under the Hood" Feb. 15, "WebCT: Advanced" Feb. 20, "HTML IV: Digital Imaging" March 6, "PowerPoint II: Advanced" March 13, "HTML III: Jump-Start Your Course Web Site" March 15, "Design Café" March 21, "Producing Quality Video for Teaching" March 26, "Digitizing Video for Teaching" March 29 and "HTML V: Developers' Q & A" April 19. To register or to obtain detailed descriptions of the sessions, visit the Web site www.tss.uoguelph.ca. If you have questions, call Mary Nairn at Ext. 3571.

## THEATRE

The drama program's student honours collective presents *Flash* by Michelle Groves Jan. 23 to 27 at 8 p.m. at the Inner Stage. Tickets are $4.

## THESIS DEFENCES

The final examination of Gavin McDonald, an M.Sc. candidate in the Department of Zoology, is Jan. 19 at 9:15 a.m. in Axelrod 265A. The thesis is "Relatedness Determination and Spawning Time QTL Detection in Rainbow Trout (*Oncorhynchus mykiss*)." The adviser is Prof. Moira Ferguson.

The final examination of M.Sc. candidate Lisa O'Connor, Zoology, is Jan. 23 at 2 p.m. in Axelrod 265A. The thesis is "Spawning Success of Introduced Sea Lampreys (*Petromyzon marinus*) in Two Streams Tributary to Lake Ontario." The adviser is Prof. Bill Beamish.

The final examination of Christopher Martyniuk, an M.Sc. candidate in the Department of Zoology, is Jan. 25 at 2:30 p.m. in Axelrod 265A. The thesis is "The Genetic Architecture and Relationship Between Growth and Age of Sexual Maturation in Two Hatchery Strains of Rainbow Trout (*Oncorhynchus mykiss*): The Use of Microsatellites to Detect QTL." The adviser is Prof. Roy Danzmann.

The final examination of M.Sc. candidate Heather Allen, Zoology, is Jan. 29 at 2 p.m. in Axelrod 265A. The thesis is "Phylogeography of Brook Char (*Salvelinus fontinalis*) in North America, Based Upon Mitochondrial DNA Variation." The adviser is Prof. Roy Danzmann.

## COMMUNITY EVENTS

The Guelph unit of the Canadian Cancer Society urgently requires volunteers to serve as leaders, coordinators, captains and canvassers for its April fund-raising campaign. Leaders are needed to organize the city's 32 zones as well as to conduct the actual canvass of homes. For more information, call 824-4261 or 836-1072.

Action Read needs volunteers to tutor adults individually in reading, writing and basic math. A commitment of two hours a week for a year is requested. A tutor training session will be held Jan. 27 and Feb. 3 from 10 a.m. to 4 p.m. If you're interested, call 836-2759.

The Waterloo-Wellington Wildflower Society will meet Jan. 17 at 7:30 p.m. at the Arboretum Centre.

The BME black history series "From Slavery to Present" continues Sundays at 1:30 p.m. at the British Methodist Episcopal Church, 83 Essex St. Everyone is welcome.

Wellington County Museum and Archives presents "Colours of War," an exhibition of 50 watercolours and drawings from the Canadian War Museum, until March 25. The museum hosts a gallery concert Jan. 28 at 2 p.m.

Guelph Civic Museum hosts its annual Robbie Burns family ceilidh Jan. 21 from 1:30 to 4 p.m. The afternoon will feature Scottish music, spinning and weaving, traditional food, a talk on the history of the bagpipe, demonstrations and displays, and family activities. Admission is $5 for adults, $4 for seniors and students and $12 for families. For more information, call 836-1221, Ext. 223.

JANUARY 31, 2001

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IN THIS ISSUE

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5 SUPERCOMPUTER will be strong research ally.

9 REMEMBERING the past gives student hope for the future.

10 COLLEGE of Arts faculty mentor new generation of Canadian writers.

# CFI Funds Study in OAC

*Prof to explore exchange of greenhouse gases*

PROF. JON WARLAND, Land Resource Science, has been awarded more than $70,000 from the Canada Foundation for Innovation's (CFI) New Opportunities program to study the exchange of greenhouse gases between agricultural vegetation and the atmosphere.

Warland, who completed his PhD at Guelph in 1999 and joined the faculty that same year, says he is "very pleased" at the recognition. "This is the first big grant I've gotten. It's cause to celebrate."

Agriculture is both a source and a sink for several important greenhouse gases, which are the primary cause of global warming. Canada must lower its greenhouse gas emission levels to conform to the Kyoto accord, and Warland hopes to play a part by developing new techniques for monitoring gas fluxes. These techniques will be used in experiments designed to find best-management practices for mitigating emissions.

Warland's research, which follows on from his doctoral dissertation, measures greenhouse gas exchange inside crops and forests. He'll use his CFI funding to buy four sonic anemometers for high-speed wind and temperature measurements, along with six net radiometers for measuring available energy. The equipment will be arrayed within plant canopies.

"Instead of measuring emissions

*Continued on page 14*

Kelly Ogilvie, left, and Cynthia Pun are two of only eight Ontario university students selected for the National Research Council's Women in Engineering and Science Program. PHOTO BY MARTIN SCHWALBE

# Two Chosen for NRC Program

*Students will gain valuable lab experience during co-op work terms*

TWO U OF G STUDENTS are among 25 women nationwide who have been selected to take part in the National Research Council's (NRC) Women in Engineering and Science Program (WES).

Cynthia Pun, a biological engineering student, and Kelly Ogilvie, a biomedical sciences major and 1999 President's Scholar, were chosen from a total of 103 candidates from across Canada. Eight students were selected from Ontario universities.

Pun and Ogilvie will work with NRC researchers during their co-op work terms over the next three years. In addition to gaining valuable experience in NRC laboratories, they will benefit from being paired with an NRC scientist or engineer who will act as a mentor. Each student will be paid at least $10,000 per work term.

Participation in the WES program has become an annual tradition for U of G students; since 1993/94, a total of 15 have received the award.

Pun and Ogilvie, who are both in their second year at U of G, are thrilled to be chosen for the program.

"It's a great and unique opportunity," says Ogilvie, who plans to pursue a career in medicine or medical research and hopes for a placement in the brain research lab at the Institute of Biological Science in Ottawa.

"The WES program will provide me with research experience and skills that can be gained only inside a laboratory. I am particularly interested in research that will help people with ailments such as Parkinson's disease or brain tumours, to aid them in their recovery or quality of life."

Prof. Anne Croy, Biomedical Sciences, says Ogilvie is "probably the most dynamic student I have every met." The two were paired through the President's Scholar mentoring program, and Croy supported Ogilvie's nomination for the NRC award. "The WES program will involve Kelly intensively in research at a much earlier level than would her coursework here at Guelph. I think she's the epitome of the type of students the program was designed to develop, train and retain in Canada as the new scientific leaders."

Pun is interested in a career in biomedical engineering and expects the WES program will help shape her future goals.

"I was ecstatic when I found out. Biomedical engineering transcends disciplinary boundaries and most certainly will be relevant to future technological advances. It's going to be so exciting to work at the forefront of this type of research."

Prof. Jack Weiner, Mathematics and Statistics, recommended her for the program. "Cynthia is bright, capable, responsible and involved," he says, noting that she earned top grades in his first-year calculus courses, has demonstrated an impressive commitment to volunteer work and participates in sports and other extracurricular activities.

Introduced in 1991, the WES program is intended to encourage women to pursue research careers in the under-represented fields of engineering, science and mathematics. Individual universities may nominate up to three students each year. The NRC selection committee evaluates and selects candidates according to a number of criteria, including their academic profile, area of specialization and communication skills.

"It's wonderful to see Cynthia and Kelly rewarded for all their hard work with such a tremendous opportunity to advance their studies and embark on promising careers," says president Mordechai Rozanski.

"I am very proud to see two more of our students accepted into the Women in Engineering and Science Program. U of G's high level of success in this program over the years is another indication of the quality of our students and our commitment to creating an environment that encourages women to realize their potential in areas such as science and engineering."

*BY STACEY CURRY GUNN*

# Campus Building Plans Gear Up

*Construction to begin this fall on three-phase project*

GROUNDBREAKING for U of G's $80-million science complex and classroom cluster — one of the biggest construction projects in the history of the institution — is slated for this fall. As little as a year later, students from across the University could be starting classes in the modern, technology-smart 1,500-plus-seat classroom cluster, which will be the first of three project phases to be completed.

The overall project is now in the *design development stage. Robbie/Young & Wright Architects*, the same firm that designed the Bovey Building, is working with the steering committee and Physical Resources staff to fine-tune a vast amount of input on program requirements and turn it into floor plans and three-dimensional design.

When the entire project is completed in 2005, the modern teaching and research facilities will be able to accommodate projected enrolment growth and deliver programs that are second to none, says CBS dean Bob Sheath, chair of the steering committee of faculty, staff and students that is responsible for consultation and overall planning.

The project is an enormous and complex undertaking, says Sheath. "The whole project right now is about 440,000 square feet, and we have to literally deal with it room by room to establish the configuration of labs, classrooms, offices and all support facilities. We need to determine whether they require information technology equipment, plumbing, ventilation, fixed furniture, movable furniture or other features for specific scientific needs."

It was less than a year ago that Guelph officials learned that their proposal to build a science complex and classroom cluster had been awarded $50 million from the provincial SuperBuild Growth Fund — the base funding needed to make the project a reality. (The University plans to raise the remaining funds through the upcoming capi-

*Continued on page 6*

## ASSOCIATE DEAN, FACULTY OF GRADUATE STUDIES

The University of Guelph is seeking an associate dean for the Faculty of Graduate Studies from within the current membership of the graduate faculty. Candidates should have a good record of academic achievement and interest in promoting high standards of education at the graduate level. The associate dean will share internal and external responsibilities with the dean and act for the dean in her absence. Prior administrative experience is not required; those who have not previously or do not now hold administrative positions will be considered for the position.

The appointment will be on a 25-per-cent-time basis. The incumbent will assist the dean in the planning and management of graduate enrolment and in program matters (i.e., program development, periodic appraisals, faculty appointments and the graduate calendar). The division of responsibilities with the dean will depend on the qualifications and experience of the successful candidate. The appointment will be for a three-year term with the possibility of reappointment for a further three years.

The Faculty of Graduate Studies currently has more than 1,700 students in 48 master's, doctoral and diploma programs. The University is committed to further growth and improved quality of its graduate programs. The associate dean will play a leading role in achieving these commitments.

Applications and nominations are invited in confidence for this position. Applicants should submit a curriculum vitae including a list of publications and the names of three referees. The deadline for receipt of applications and nominations is Feb. 28, 2001.

The University of Guelph is committed to an employment equity program that includes special measures to achieve diversity among its faculty and staff. We therefore particularly encourage applications from qualified aboriginal Canadians, persons with disabilities, members of visible minorities and women.

Send applications and nominations to:

Prof. Isobel Heathcote
Dean, Faculty of Graduate Studies,
and Chair of the Selection Committee
Graduate Program Services
Level 3, University Centre
University of Guelph

UNIVERSITY of GUELPH


# SENATE REPORT

*Planning Continues on Enrolment, Recruitment, Research and Facilities*

AT THE JAN. 16 MEETING of Senate, president Mordechai Rozanski updated senators on the Council of Ontario Universities' advocacy efforts surrounding the need for increased operating and facilities renewal funding.

All universities and colleges in the province have submitted projections to the provincial government, indicating they will accept more students to accommodate the influx expected to begin in 2003/2004 due to the double cohort, he said. This accommodation, however, is contingent on post-secondary institutions receiving adequate operating support.

Internally, the president added, planning continues at U of G on student enrolment, faculty and staff recruitment, strategic research thrusts, and facilities renewal and expansion. Much of this is being overseen by the Senate Committee on University Planning.

A key component of the planning process is the location of the University's classroom cluster, he said. The preferred site — as identified by the science complex planning committee and the project's architects — is a location in the campus core now occupied by aging barns being used for fine art studios and storage. Rozanski reiterated a commitment stated at the last Senate meeting that no construction would begin on the classroom clusters until the fine art studios are relocated on campus and suitable storage facilities are found (see story on page 1).

In other Senate news, senators gave first approval to three initial programs that will be offered jointly by the University and Humber College (see story on page 4).

# Fund Established to Assist Family of U of G Employee

A FUND has been established to assist the spouse and children of a U of G employee who died in a tragic accident on Gordon Street Jan. 26.

Donations to the Christopher Perry Family Fund can be made at any Guelph branch of the Royal Bank or can be mailed to the St. George's Square branch at 74 Wyndham St. N. N1H 4E6. Cheques should be made payable to the Christopher Perry Family Fund.

Christopher Perry, who was employed by the University Centre, was pronounced dead at Guelph General Hospital last Friday morning following an accident involving a bicycle and a city bus. The accident happened in front of the Animal Science and Nutrition Building on Gordon Street, near a pedestrian crosswalk controlled by traffic lights between College Avenue and Stone Road.

President Mordechai Rozanski says the University community is profoundly saddened by the loss. "An incident like this is deeply felt across this campus," he says. "All of our thoughts are with the family, and we have passed along this message to the employee's spouse and children on behalf of the entire University."

City police are still investigating the accident and have asked anyone who witnessed the collision to contact them at 824-1212.

Nancy Sullivan, vice-president (finance and administration), says that once the police complete their investigation, the University will meet with city officials to see what can be done to enhance bicycle and pedestrian safety on Gordon Street.

"The University has been — and continues to be — concerned about all traffic on Gordon Street, and has raised these concerns with the city," she says.

Among the issues raised have been reducing the speed limit on Gordon and the addition of a crosswalk at Gordon and McGilvray streets.

"We will discuss these matters with the city as well as with others to determine if any steps can be taken to prevent similar accidents in future," she says.

Sullivan adds that transportation matters, including pedestrian, cycling and vehicular interaction, are also included in the upcoming review of U of G's campus master plan. Anyone who has concerns or suggestions about these matters is encouraged to e-mail her at sullivan@exec.admin.uougelph.ca.


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## IN MEMORIAM

### Christopher Perry

A funeral service was held Jan. 30 at the Arboretum for Christopher Perry, 32, an events assistant in University Centre administration, who was killed in a road accident Jan. 26. A 1995 BA graduate of U of G, he had been employed on campus since July 1998.

Mr. Perry is survived by his spouse, Pamela Harrison, and five children, Michelle, Adam, Cassidy, Nesta and Raenyn.

### Robert Stinson

Retired physics professor Robert Stinson died Jan. 13 at the age of 69. A 1953 graduate of OAC, he earned his PhD in biophysics from the University of Western Ontario in 1960. He also taught physics in OAC for 10 years before leaving in 1963 to head the physics department at the State University of New York College at Potsdam. He returned four years later to join the faculty of U of G.

During his tenure at Guelph, Prof. Stinson made a significant contribution to the teaching of biophysics and was co-author of the standard first-year textbook *Physics for the Biological Sciences*. His early research in biophysics was related to studies of the dynamics of blood flow and the molecular arrangement of collagen in the walls of arteries. More recently, he developed the technique of small-angle X-ray scattering for the study of biological membranes. He retired in 1993.

Predeceased by his wife, Eleanor, he is survived by three sons, Douglas, Thomas and Murray, and two grandchildren. A tree will be planted in his memory Sept. 23 in the Wall-Custance Memorial Forest.


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UNIVERSITY of GUELPH

NEWS IN BRIEF

### NOMINEES SOUGHT FOR CBS TEACHING AWARD

The College of Biological Science is seeking nominations for its annual Award for Excellence in Teaching. All members of the University community are invited to nominate a faculty member, teaching team or group in CBS for this award. Individuals or groups may be nominated on the basis of outstanding individual or collaborative performance in one or more of the following areas: undergraduate classroom instruction; graduate teaching (courses, thesis supervision); curriculum development; preparation of teaching materials; development of innovative teaching methods; scholarship in the field of education; or other contributions. Nomination forms, available in the offices of department chairs, should be submitted to CBS dean Bob Sheath by March 9.

### FUNDING AVAILABLE FOR WOMEN'S CAMPUS SAFETY

The Women's Campus Safety Initiatives Committee has issued a second call for proposals from the University community to receive support under the Ministry of Training, Colleges and Universities' annual grant for women's safety initiatives. The committee especially encourages proposals aimed at improving physical safety for women on the main U of G campus, as well as at its satellite colleges and research stations. Deadline for proposals is Feb. 2 at 4 p.m. in the Human Rights and Equity Office. For more information, call committee chair Mahejabeen Ebrahim at Ext. 6025.

### GUELPH TO HOST ONTARIO ENGINEERING COMPETITION

The 2001 Ontario Engineering Competition will be held at U of G Feb. 9 to 11. Engineering students from across the province will compete for prizes in a range of design and communication categories and will have an opportunity to interact with engineers at all levels of industry, government and academia. The weekend includes a career fair Feb. 10 from 1 to 5 p.m. in the University Centre. For more information, call Ext. 2150 or visit the Web site www.uoguelph.ca/ ~oec2001.

### EQUIPMENT DONATED TO KEMPTVILLE PROGRAM

The golf and turf equipment mechanic certificate program at Kemptville College's Power and Equipment Centre has received a donation of 19 pieces of mowing equipment valued at more than $85,000 from G.C. Duke Equipment Ltd. in Burlington. The certificate program, now in its third year, is a full-time six-month program designed to give students the knowledge and practical skills needed to service and repair powered equipment used on golf courses and in the grounds maintenance and equipment rental industries.

# Campus Policy on Human Research Subjects Revised

*Research Ethics Board will centrally review all proposals*

THE UNIVERSITY'S POLICY on ethical conduct in research involving human subjects has been significantly revised to comply with federal guidelines.

Examined by the University's Joint Faculty Policies Committee, all faculty members and Senate's Research Board — and recently approved by Senate itself — the revised policy replaces U of G's 1989 "Ethics of Utilization of Human Subjects in University Academic Programs" document.

The policy also conforms to requirements instituted two years ago by the three federal granting councils — the Natural Sciences and Engineering Research Council, Social Sciences and Humanities Research Council and Canadian Institutes for Health Research — and contained in a tri-council policy statement.

That statement urged universities and other research institutions to more clearly address such issues as protecting the safety and confidentiality of human research subjects, to outline the standards and procedures to be used by their research ethics boards, and to begin reviewing all graduate student research involving human subjects. Only institutions that amended their existing policies would continue to be eligible for funding from the granting councils.

Research involving humans as subjects is essential to advancing knowledge, understanding and human welfare, says U of G's revised policy. "Such research," it adds, "is a critical aspect of the work of the University and its academic programs. (But) balanced against the need for research is a moral imperative to conduct human research in an ethical manner that both respects human dignity and requires that the welfare and integrity of the individual remain paramount."

An important component of the revised policy is the establishment of a Research Ethics Board to centrally review all research proposals or protocols. The board, expected to be in full operation by fall 2001, consolidates the work of the former University Human Subjects Committee and departmental or college review committees, which jointly reviewed between 175 and 200 protocols a year.

Research services director Wayne Marsh says neither the policy revisions nor the establishment of the new campus-wide research board should delay the approval of research protocols at U of G — something that has happened at other universities.

"In the majority of cases, there shouldn't be an increase in the turnaround time," says Marsh, who also doesn't foresee a dramatic rise in the number of protocols the Research Ethics Board will have to review in future.

The new board will have among its members a faculty member knowledgeable in ethics, someone with legal expertise and a representative of the external community. The board will review protocols for University research and class projects to ensure that if human subjects are involved, such projects meet the ethical standards approved by the University. These include respect for human dignity, for free and informed consent and for privacy and confidentiality.

*BY SUZANNE SOTO*

# Finnish Students Go the Distance

*Pilot project with HAFA, Open Learning could expand into co-operative agreement*

STUDENTS ENROLLED in the distance education course "Introduction to Canadian Business Management" this winter have some "long-distance" schoolmates in their virtual classroom.

About one dozen students from Lahti Polytechnic University in Finland are taking the course as part of a new partnership between the Finnish University and Guelph's School of Hotel and Food Administration and Office of Open Learning.

Virginia Gray, director of open learning, says this is "a wonderful example of our strategic directions in action — a learner-centred open learning course that incorporates recent research in the field, is offered to an international audience and is being done in collaboration with another educational institution."

HAFA director Prof. John Walsh adds that this is the first time a group from a single institution has deliberately been brought into a distance education course.

"Lahti recognized U of G as a leader in hospitality and tourism management, and was interested in using some of our courses rather than reinventing the wheel," Walsh says.

The idea for the partnership was initiated in 1998 when Ulla Weijo, dean of business studies at Lahti, visited Guelph. Weijo was touring North American universities with similar service management and business programs.

Located in southern Finland, Lahti has about 3,500 students and offers 17 degree programs in business studies, design, fine arts, music, parish social services, service management, social and health care, sports, technology and engineering and visual communication. Its programs have an occupational emphasis and are designed to respond to the demands and development needs of business and industry.

"Business is a global activity," says course instructor Derek Vigar, "and what better way for students from both sides of the Atlantic to appreciate this perspective than by having international students in your groups?"

Walsh says it made sense to start the partnership by allowing Lahti students access to a Guelph distance education course. "Finland is the number one connected country in the world, with the highest proportion of people on the Internet," he says.

Despite their technological savvy, however, this is the first time Lahti students have taken a course that is totally interactive and online, says Ullamarai Tuominen, a Lahti professor who is overseeing students in the program. "We are happy that we can now offer our students a new way to study."

The course is an introduction to the fundamentals of business management in Canada. Students learn about the basic functions of business and entrepreneurship, forms of business management and ownership, and the fundamentals of marketing, accounting, operations management, human resources and business strategy.

Vigar says his course effectively uses e-mail, bulletin boards and Web sites to keep communication channels open. "The technology ensures that everyone is gaining a valuable learning experience, no matter if they're across campus or across the world."

At Lahti, the language of instruction is Finnish, but business management courses and many individual study modules are taught in English. The distance education course includes group assignments that will have U of G and Lahti students working on projects together.

"This gives students in our 'virtual classroom' a big advantage because it broadens their international perspective," says Walsh.

Adds Vigar: "The strength of this course lies in its ability to draw on the diverse experiences and backgrounds of its students. These international students add an extra layer of diversity and a global perspective to this online format, which is extremely valuable in enhancing the learning experience for all students."

The course will serve as a pilot project that could eventually expand to include a wider co-operative agreement between the two universities. "I see these types of partnerships as the way of the future," Walsh says.

*BY LORI BONA HUNT*

## PEOPLE

### ENGINEER HONOURED AS CONSERVATION PIONEER

University professor emeritus Trevor Dickinson, Engineering, was one of six people from across Ontario named a Conservation Pioneer at the 2000 Latornell Conservation Symposium this fall, in recognition of contributions to the conservation profession. A faculty member at Guelph from 1967 to 1994, Dickinson is the recipient of numerous awards, including the 3M Fellowship, John Bell Award, Engineering Professor of the Year and Canadian Merit Award.

### SSHRC FELLOWSHIP RECOGNIZES EXCELLENCE

Five U of G PhD students were winners in the 2000 national competition for doctoral fellowships from the Social Sciences and Humanities Research Council (SSHRC): Sarah Allen, Family Relations and Applied Nutrition; Douglas Al-Maini and James Brouwer, Philosophy; Tracy Cocivera and John Robinson, Psychology; and Rebecca Sutherns, Rural Extension Studies. Guelph MA graduate Robin Milhausen also received a 2000 SSHRC fellowship and is studying social work at Ball State University. Valued at $16,620 a year for up to four years, the fellowships are awarded to students who have demonstrated high standards of academic achievement.

### GUELPH CAPTURES THREE BRONZE CASE MEDALS

*U of G was awarded three bronze medals in the CASE District II* Alumni, Communications and Philanthropy Awards Program. The Office of Registrarial Services' annual series of recruitment publications won a bronze award in the student recruitment publications/packages category. Project managers were Susan Vercruysse and Gregory Klages; designers were Chris Boyadjian and Penny Clemens. In Communications and Public Affairs, Mary Dickieson won a bronze award for best article of the year, and Alexander Wooley and Lori Bona Hunt won for excellence in news writing.

# UW Tally Tops Goal

THE FINAL TALLY in U of G's 2000 United Way campaign was $240,000, exceeding the campus goal and helping the Guelph and Wellington United Way campaign reach its $2-million goal, says campus co-chair Karen Reimer of Co-operative Education Services.

The annual President's Prize for achievement was awarded to the College of Biological Science and recognized college co-ordinators Prof. Jim Dickey, Human Biology and Nutritional Sciences, and Toni Pellizzari, CBS dean's office. The Gabrielle Hubert Volunteer Award was presented to Margaret Middleton of Human Resources.

# First Three Academic Offerings by Humber-Guelph Get Senate Approval

*Completion of Humber-Guelph Centre for Advanced Education and Training tentatively scheduled for fall 2003*

UNDERGRADUATE diploma/degree programs in the high-demand area of media studies, in family and community social services and in business administration have been approved as the first three initiatives to be offered jointly by U of G and Humber College in 2003.

On Jan. 16, Senate approved the programs unanimously and without discussion. The approval was followed by hearty applause.

"I guess people are ready for them," says Prof. Steve Scadding, Zoology, chair of the Board of Undergraduate Studies, who put forward the approval motion.

Prof. Michael Nightingale, who is spearheading U of G's component of the Humber-Guelph initiative, says that on Jan. 22, Humber's Board of Governors also "enthusiastically endorsed" the new programs.

"This is an important milestone, achieved through the effort and goodwill of many individuals, both at Humber and Guelph," he says. "There is still much to be done, but I'm sure the community will be encouraged by this development to continue working on this very worthwhile effort."

Intended to prepare students for careers in journalism or public relations, the media studies program was developed by faculty members from the College of Arts and representatives of Humber's School of Media Studies. It will build on Humber's successful journalism and public relations programs by integrating university courses in the humanities and social sciences and drawing on U of G faculty expertise in such areas as English, history, drama, French, philosophy and the fine and performing arts.

The new program is expected to fill a long-standing need for more media studies, created in part by the Internet. Over the past five years, Humber has seen a marked increase in the number of students seeking entrance to its media programs. In 1999, more than 1,000 applicants applied for 100 seats in the college's journalism program. That same year, 486 applicants vied for 60 seats in the public relations program.

Although there are other college and university journalism programs in Canada, this offering creates a new space for combining professional training and critical thinking. In addition, there is no public relations program offered at the university level in the country.

On completion of the four-year curriculum, students will be awarded a post-secondary diploma in either journalism or public relations and an honours bachelor of applied arts degree. The BAA in media studies will also prepare graduates for admission to graduate programs in journalism and communications.

The integrated diploma/degree in family and community social services will prepare people to work with individuals and families in various social service settings. Clinical competency, culturally sensitive practice in counselling, community research techniques, mediation, agency administration, case management and community development strategies are just some of the areas to be covered.

Students will also develop strategies for working with high-risk families and children in both intervention and prevention modalities at the individual and community levels.

The program will involve faculty from Humber's School of Community and Social Services and various U of G academic units, including the departments of Family Relations and Applied Nutrition, Psychology, and Sociology and Anthropology.

The new honours degree and post-secondary diploma in business administration will provide students with the skills and knowledge required to meet the challenges of today's increasingly complex marketplace and to lead change management initiatives in public, private and voluntary organizations.

It will offer students a balanced breadth of studies in core areas of business administration along with emphasis in functional areas such as international business, finance, marketing, management of not-for-profit enterprises and small-business management/entrepreneurship.

Faculty members from Humber's Business School and U of G's Faculty of Management will be actively involved in the program's delivery.

The Humber-Guelph Centre for Advanced Education and Training, to be located on Humber's north campus in Toronto, is tentatively scheduled for completion by fall 2003. It will house fully integrated joint admission programs involving the two institutions, and will accommodate 2,000 students by 2006. A first intake of 200 students will begin in 2002 as a pilot project.

The Humber-Guelph initiative is being funded by $30 million in capital support through the provincial SuperBuild Growth Fund.

*BY SUZANNE SOTO*

# Agricultural Diploma Grads in Big Demand

*Misconceptions about modern agriculture persist among potential students*

WHEN GRADUATION rolls around for the 515 students currently enrolled in agricultural diploma programs at Kemptville and Ridgetown colleges, Collège d'Alfred and the main U of G campus, they will almost all be swept up into promising careers in their field. Unfortunately for the agri-food industry, that will still leave up to another 1,000 positions unfilled.

Such is the dilemma for the second-largest economic engine in the province: fantastic growth and opportunity, but a shortage of skilled workers to fill key jobs.

Hoping to change that is Ben Hawkins, associate director of Kemptville College. As the newly appointed president of the Canadian Association of Diploma in Agriculture Programs (CADAP), Hawkins is taking the message across Canada that perceptions, especially among high school-age teens, have to change about modern agriculture.

"We have no problems getting our graduates into jobs because there's basically a 100-per-cent employment rate," he says. "The challenge for CADAP and for the 20 colleges with agri-food diploma programs it represents is getting high school kids to enrol in our programs. That's a nationwide challenge."

Hawkins says much of the current agri-food workforce on the farm and elsewhere will retire in the next 20 years. That means a significant number of young people need to be turned on to agri-food careers and enrolled in programs that will keep Canada competitive in a highly educated, high-tech global marketplace.

Industry is all too aware of the high demand. At CADAP's annual meeting in Winnipeg last summer, Barry Smith, director of agriculture for CIBC, told association members: "We are constantly looking for diploma graduates who have a farm background and understand the changing agricultural environment. Agri-businesses are looking for graduates with skills in marketing, e-commerce, communication and management capability."

In the careers section of the trade Web site www.farms.com, job postings include senior Internet developer, account supervisor, buyers, artificial insemination breeding technicians and robotic systems salespersons.

"There are more jobs than good people to fill them," says Farms.com's Brett Cortus.

Anecdotal evidence at agri-food colleges and universities across the country suggests there might be as many as two to three jobs for every graduate. But Hawkins says not enough people are aware of the potential talent shortfall.

"The number of farms is decreasing, so many people assume employment opportunities are decreasing, too," he says. "But most of the jobs today are in agri-food processing, food production, research, financial services, commodity trading and international sales. There's big demand, and we need more students."

Nathalie Lalonde-Kingsley, information officer at Collège d'Alfred, says she hears a similar story when she hits the road on recruiting trips.

"The prospective students I make presentations to know Alfred is an agri-food college, but even then when I ask what jobs they could do with an agricultural diploma, they say: 'I don't know, I don't come from a farm.' They aren't aware that agri-food is as high-tech as it is, that qualified and trained people are needed, that there are no limits to what they can do with a diploma. You should see their faces when I explain this. 'I never knew all that,' they say."

> *"We have no problems getting our graduates into jobs because there's basically a 100-per-cent employment rate."*

To get the message across, Alfred emphasizes the combination of technical and managerial skills that come with the diploma program, and the fact that 93 per cent of last spring's graduates had jobs in their field as soon as they completed the program.

Kemptville recruitment material showcases the future of agri-food by focusing on emerging issues: new trade agreements, environmental challenges, new technologies, new markets and alternative forms of agriculture.

At Ridgetown College, where associate director Ron Pitblado also serves as CADAP's vice-president, a recruitment video is in the works that will target potential diploma students. Other material highlights careers that graduates have gone on to from the college. These include a farm manager in Bermuda, international commodities trader and farm financing manager for a major credit corporation.

"When we go to high schools, we're trying to get the word out as to what modern agriculture is about," says Linda Balmer, student services co-ordinator at Ridgetown. "We explain the range of technical and agri-business careers that are available."

Balmer says farming is still on the minds of many of her students. "A lot do want to go back to the family farm, which is fine, but we also encourage them to look at off-farm opportunities, to gain a better perspective of what else is going on in the industry. Also, for some, having a second job as a supplement to cash-crop farming is a necessity, so having the education to pursue other financial opportunities is a real plus."

According to Balmer and others, the swine industry in southwestern Ontario is in particular need of people. A recent feature article in *Ontario Hog Farmer* noted that job sections of trade papers frequently post 10 to 15 openings in the industry each week, with few people answering the ads.

Balmer says there are three jobs for every graduate of Ridgetown's two-year swine program. "Herdspersons, managers, technical staff — there are a lot of vacant positions, and we're looking to improve the supply of graduates into this area. Salary for an entry-level swine barn manager starts at $40,000, which isn't bad."

At all four U of G locations offering diploma programs, there is room for enrolment expansion, but attracting more students is an uphill battle, in part because of the generally gloomy mainstream media coverage of agri-food. OAC M.Sc. student Liz Gomes researched this issue while interning at the Ontario Farm Animal Council through the OAC/Junior Farmers Association of Ontario's internship for young leaders. Analysing three urban daily newspapers published from 1995 to 1999, she discovered that the number of stories on animal agriculture increased steadily from 1995, but that the coverage was predominantly negative, by a ratio of two to one.

"National media coverage of depressing news — farmers going bankrupt and selling their farms, low commodity prices — also does serious damage to our efforts," says Hawkins.

But Pitblado believes agriculture educators are not deterred by these developments.

"Post-secondary education in agriculture has never been as critical as it is today," he says. "The complexity of this industry is enormous, requiring highly skilled managers. The four colleges continually update their diploma programs to meet these changing needs and are implementing new and innovative ways to highlight the benefits of the education and career opportunities for our graduates."

*BY ALEXANDER WOOLEY*

# Supercomputer Will Be Strong Research Ally

*SHARC-Net will support U of G researchers and colleagues across southwestern Ontario*

BEOWULF HAS ALWAYS been a hot topic for scholars, students and other readers of early English literature. These days, it's a name on the lips of computer scientists as well.

The image of the sixth-century Scandinavian warrior king, whose exploits are embellished in the oldest surviving epic poem in the English language, has been adopted by the world of high-performance computing (HPC) to describe a revolutionary form of supercomputer that's changing the face of research in Canada.

The Beowulf of the ancient tale killed fearsome monsters and a fire-breathing dragon. Today's Beowulf computer clusters battle reams of data, performing high-speed calculations in pursuit of scientific discovery.

Beowulf clusters will be the foundation of the long-awaited Shared Hierarchical Academic Research Computing Network (SHARC-Net), set to start up this spring. The $41-million enterprise will be one of the most powerful supercomputing installations in the world and an enormous ally for U of G researchers and their colleagues at such partner institutions as the University of Western Ontario, the University of Windsor, McMaster University, Wilfred Laurier University, Sheridan College and Fanshawe College.

Proponents say that SHARC-Net will fill the current supercomputing void in southwestern Ontario that has seen researchers leave the country to pursue HPC-related projects.

"By creating one of the first large grid-based computing systems in the country, this investment positions Guelph and its partner institutions as major international players in high-performance computing," says president Mordechai Rozanski.

SHARC-Net's infrastructure is funded by a grant from the Canada Foundation for Innovation (CFI), which is matched by the Ontario Innovation Trust and corporate partner Compaq Canada Inc. for a total of $16.6 million. An $8-million grant from the Ontario Research and Development Challenge Fund (ORDCF), plus matching funds from Compaq and institutional partners (for a total of $24 million) will pay for support staff and research personnel and will sustain the infrastructure over the first five years of operation.

Unlike conventional supercomputers, which are custom-built and tremendously expensive and rapidly become obsolete, a Beowulf computer cluster is a comparatively simple and inexpensive configuration of standard computing technology. Pioneered by NASA in the mid-1990s, it consists of scores of computer processors, similar to conventional PC hard-drive towers, all running in parallel for one or many users simultaneously. They are linked by a Linux-based software program and a dedicated, state-of-the-art high-speed network to form a single computational power grid.

U of G's ion channel group is eagerly awaiting SHARC-Net's start-up. Banks of computer processors, similar to the few shown here but much more powerful, will take the group's research to a new level. In front is Prof. Chris Gray, Physics. In back, from left, are graduate student Hank Dehaan, research associate Igor Tolokh and Prof. Saul Goldman, Chemistry and Biochemistry. PHOTO BY MARTIN SCHWALBE

SHARC-Net will be composed of Beowulf clusters at Guelph, Western and McMaster. The 108 processors stationed at U of G in the basement of the Animal Science and Nutrition Building will operate in tandem with those in the other clusters as a distributed-memory parallel supercomputer that provides the equivalent of more than 130 gigaflops of processing power and 1.26 terabytes of hard-disk storage.

"It's going to give us a capacity for computing we haven't had before in the history of Guelph," says Prof. Deborah Stacey, Computing and Information Science (CIS), the project leader at U of G. "We'll be able to do things people hadn't been thinking of doing because they didn't have the computational capacity."

Guelph is unique among the member institutions because it will use SHARC-Net for research with a primarily biological focus, led by faculty in CIS, the Department of Physics, the Department of Chemistry and Biochemistry and the School of Engineering.

For example, Prof. Chris Gray, Physics, and Prof. Saul Goldman, Chemistry and Biochemistry, will use SHARC-Net to advance their research on the structure and dynamics of ion channels, which are special protein molecules embedded in cell membranes. Ion channels transmit ions in and out of cells for nerve propagation and other bodily functions; their malfunction is related to diseases such as cystic fibrosis and certain heart arrythmias.

The ion channel group already has experience with HPC; a year ago, the researchers built their own "baby Beowulf" computer cluster of 50 processors to speed up simulations of how the channels function — information that will ultimately help advance medical research with partners at the University of Toronto.

Gray, one of U of G's two principal investigators for the CFI and ORDCF grants, is quick to credit the senior administration, in particular Prof. Ross Hallett, assistant vice-president (research infrastructure), for actively supporting the project.

Gray says SHARC-Net will be "a huge breakthrough" for his group's research. "The new machines will be much more powerful, by a factor of 100. We'll be able to investigate bigger molecules, run much longer times and tackle problems in ways that weren't possible before."

The biocomputing and genomics projects at U of G (see sidebar for more examples) are one of SHARC-Net's five core research areas, which also include physics and chemistry of advanced materials; fluid dynamics in engineering, astrophysics and geophysics; business and finance; and high-performance computing, visualization, networks and grid computing.

Stacey hopes to see increasingly diverse applications for the technology as time goes on.

Thanks to ORDCF, the human resources support will include technical expertise provided by system administrators and programming assistants at Guelph, Western and McMaster. There will also be funding for faculty bridging positions, grad students and co-op students.

Accounts will be free to researchers, who will be able to access the power grid via an operating system that will distribute the various jobs to the required number of computers. Some projects may require only a handful of computers; others will draw on the entire network.

Stacey is currently looking for volunteers from the University community to serve on a SHARC-Net management board. She's also looking for people to form and staff scientific user groups for specific disciplines.

The Compaq hardware has just been delivered to Guelph, but already Stacey and the rest of the SHARC-Net team are looking down the road to what may be their biggest challenge: ensuring that the infrastructure is renewed as HPC technology advances. Equipment can become out of date — and therefore obsolete — in as little as 18 months, a factor that has limited HPC resources in Canada to date. A business manager will be hired to explore options for further funding beyond Compaq's commitment to sustain the infrastructure for five years.

"A sustainable model has never beeo achieved in Canada before," says Stacey. "We have to be creative if we don't want this to become a nice piece of junk. We're trying to build a business model around SHARC-Net to keep funding it through other avenues such as industry support and government support."

Gray says an immediate goal is to seek further CFI-ORDCF funding for a southwestern Ontario institute for computational science, which will include electronically linked classrooms for Guelph, McMaster, Western, Windsor and Laurier.

A longer-term goal is to hook SHARC-Net up with other emerging HPC centres in Canada and the SGI supercomputer at the Ontario Centre for Genomic Computing at Toronto's Hospital for Sick Children. Stacey says SHARC-Net could eventually become a non-profit corporation to provide supercomputing for university campuses across Canada.

"We're making this up as we go along," she says. "SHARC-Net brings together an enormous range of talented researchers and HPC expertise. It's a visionary project that we hope will inspire visionary research."

*BY STACEY CURRY GUNN*

## Range of Uses Planned

U OF G RESEARCHERS who plan to take advantage of SHARC-Net include the following:

Prof. George Harauz, Molecular Biology and Genetics, will study the structures of myelin proteins to better understaod how they are involved io diseases such as multiple sclerosis. His group uses computers to perform predictions of structure from sequence and to simulate how chemical changes to the protein change its conformation and how it interacts with cell membranes.

Prof. Kenneth Jeffrey, Physics, aims to better understand how pesticides such as 2, 4-D work by studying the interaction of small hydrophobic molecules with cell membranes.

Prof. Don Sullivan, Physics, has proposed research on the bebaviour of inhomogeneous liquid crystals, particularly to study the properties of smectic phases in a model liquid crystal composed of semi-flexible hard-sphere chain molecules.

Prof. David Chiu, Computing and Information Science (CIS), will use SHARC-Net to look for statistical patterns in biomolecular data. From data such as genomic complexes, he intends to identify significant patterns that are useful for inferring the relationships between function and sequence, and/or molecular structure and sequence.

Prof. Jeffrey Tomason, Biomedical Sciences, will work with Profs. David Calvert and Deborah Stacey, CIS, to classify race horse hoof strain gauge data using neural networks. Stacey will classify medical and veterinary data using supervised and unsupervised neural networks, and will work with Prof. Stefan Kremer, CIS, on the use of unlabelled data in supervised training of neural networks. Stacey will also facilitate the generation and mining of biodiversity and other very large databases.

Prof. Simon Yang, Engineering, will explore real-time motion planning and control of robotic systems, as well as neurocomputational models for biological systems.

Prof. John Goddard, Chemistry and Biochemistry, studies the electronic structure of molecules using computational quantum chemistry. SHARC-Net will take this research to a new level, he says. "More reliable hut computationally demanding studies of larger molecules will become possible for tbe first time."

Prof. Glenn Penner, Chemistry and Biochemistry, will use SHARC-Net to calculate molecular properties that his research group can measure using the new nuclear magnetic resonance spectronieters funded last year by CFI/ORDCF.

Prof. Jim Davis, Physics, says his group will use SHARC-Net to perform "all-atom" molecular dynamics simulations of model membrane systems composed of lipids and water. They will also use the facility to perform calculations on small protein segments.

# Construction Essential to Meet Current, Future Needs

*Continued from page 1*

tal campaign and other funding programs.)

Sheath says the award was "tremendous news" for the University because its major science buildings are badly in need of upgrading and expansion, and teaching space for disciplines across campus, particularly for the humanities and social sciences, is in short supply. The project has the additional benefit of eliminating deferred maintenance totalling millions of dollars.

Demand for science programs has risen dramatically over the last decade. First-choice applications to the B.Sc. program have grown in excess of 50 per cent, and that trend is expected to continue. The growth scenario extends beyond the B.Sc. to other high-demand areas, including the new bachelor of arts and sciences and new majors in the bachelor of commerce and bachelor of arts programs.

Construction of the new facilities will also help address the anticipated increase in student numbers as Grade 13 is phased out and the children of the baby-boomer generation reach university age.

"The construction of the science complex and the separate classroom cluster is essential to meet current student needs as well as to respond to increasing enrolment in areas of high demand and in the new programs the University is introducing," says president Mordechai Rozanski. "It enables Guelph to build modern learning facilities to serve faculty, staff and students in the sciences and throughout the University."

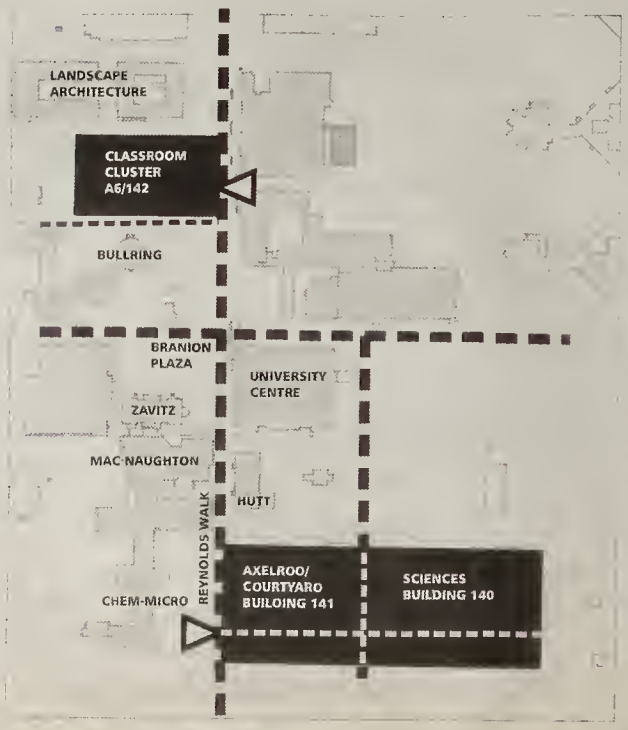
Soon after coming together for the first time last spring, the project steering committee, co-chaired by CPES dean Bob McCrindle, held initial meetings with all CBS and CPES departments and struck 17 subcommittees to determine the requirements for teaching labs, research labs, teaching and research support rooms, offices, administration and other components.

The classroom cluster subcommittee, chaired by Prof. Julia Christensen Hughes, director of Teaching Support Services, researched all available data to project the needs for current students and the expected increase in student population over the next several years. The subcommittee considered the effects of various teaching methods, program needs and classroom standards to come up with recommendations for the classroom facility's design.

The new classroom cluster will have a capacity for 1,530 students from all disciplines across campus. It will provide easily accessed, modern "smart" classrooms that include computer-based multimedia equipment for the delivery of technology-assisted course content. The teaching spaces include four lecture halls of 600, 400, 200 and 120 seats as well as two 60-seat classrooms and three 30-seat classrooms. The classrooms will feature a range of designs, from fixed seats to flexible seating, to meet learner-centred teaching strategies.

Eight possible locations were assessed for the classroom facility, based on factors such as a central location, proximity to main pedestrian routes and site capacity. The steering committee, after reviewing all the options with the architects, unanimously chose the current site of the barns between the Bullring and the School of Landscape Architecture as the site that best fit all the criteria.

"It will be nice to have more classes in the middle of campus," says Tim Singer, president of the CBS student government and a member of the project steering committee. "Right now, students are running all over from class to class. These classrooms will be less of a walk from South Residences or where most students get off the bus at the University Centre."




Site plan for the science complex and classroom cluster

To make way for the classroom facility, the barns that currently occupy the site would need to be demolished this summer.

A portion of the barns complex is currently being used as fine art studios for eight graduate students and as storage space for a number of departments. Students who currently have studio space in the barn will be able to complete their semester work, and new, more accommodating studios will be built in the Fire Hall and on the upper level of Blackwood Hall before the barns are razed. Alternative storage space will be found for items that departments determine are essential for teaching, research or operational purposes.

*"We're building it not only to meet our needs when it opens, but also to be useful 10 years after it opens for different sets of needs."*

Prof. Mary Cyr, director of the School of Fine Art and Music, says the new location for the art studios will be better than the current space in the barns. "They will be more appropriate for the studio work and there will be a common area in addition to individual spaces," she says. "Fine art students are already working on the first floor of Blackwood Hall, so this solution will bring all the grad students into closer proximity with each other, which should help foster a sense of community."

The history of the barns was reviewed and their current condition was also assessed before the site was pinpointed as the preferred location for the classroom cluster. The original barns were built in 1886, but subsequently burned down three times, and much of what stands today was built in 1942 from scavenged materials.

According to external engineering and architectural reports, the buildings are poor examples of traditional Ontario barn construction and have no real historical or heritage significance. As part of the due diligence process, Physical Resources is also meeting with Guelph's Local Architectural Conservation Advisory Committee. In addition, there are plans to professionally photograph the barns and collect existing and available relevant plans and records for archival purposes before tearing them down.

Student input will be sought on a new location for the "sounding board" on the side of the barn facing Reynolds Walk. And the architect has been instructed to see whether some of the materials can be used in the new building to recognize the original use of the site.

The new science complex, Phase 2 of the project, will be located between the Axelrod Building and South Ring Road. The five-storey building will adjoin Axelrod's southwest corner at all floor levels and encompass the Hagen Aqualab and the Institute of Ichthyology. It's anticipated to be complete in 2003. The third phase of the project, the renovation and expansion of the original wing of Axelrod, is slated for completion by the spring of 2005.

Currently, two buildings on campus, Axelrod and Chemistry/Microbiology, house the majority of the lecture, laboratory, offices and technical shops that support the B.Sc. program. Internal and external studies have determined that these buildings have outlived their useful life and that major upgrading and expansion are required.

Not only are many of the labs in need of modernization, but the classrooms in the Axelrod Building, for example, were designed in the 1960s and don't support the University's aim for a learner-centred environment, says Singer.

"The classrooms were built in a different era. The sightlines aren't right and the seating makes it hard to turn to see people for class discussions. The instructors are limited by the design. It's a lot easier to interact in a lecture if the room is designed properly."

Ultimately, whole departments comprising hundreds of faculty, staff and students will be moving into new or renovated quarters. The changes particularly affect the departments of Microbiology, Botany, Zoology and Chemistry and Biochemistry — everyone currently located in the Chemistry/ Microbiology Building and everyone in all but the newest wing of Axelrod.

The development will enable closer collaboration between CBS and CPES. Departments will be able to more easily share resources, seminar programs, teaching equipment, technical staff and research equipment. The deans' offices will be side by side, and CBS and CPES counselling will be amalgamated. There will also be a central location for student support services, common computer labs, joint student council offices and study spaces throughout the complex.

A proposed new Advanced Analysis and Training Centre will house state-of-the-art equipment, providing training in cutting-edge technologies and partnerships with external groups.

Arranging analytic equipment and modern labs in close proximity to teaching space will foster experiential learning, says McCrindle. "Guelph graduates will be the only ones in the country who will have the opportunity to obtain hands-on experience in International Standards Organization (ISO) and Good Laboratory Practices (GLP) certified labs, making them even more attractive to public and private employers in Ontario."

Sheath says the architects expect to complete the design work and put the project out to tender by early summer. "From our perspective, the architects have been first rate in their approach," he says. "They've spent an inordinate amount of time going through more than 20 different versions of the building program. At every step, they've listened to the University's needs in great detail and taken them into account. We're getting excellent service."

Angelo Gismondi, the project manager hired by Physical Resources to oversee the development from planning to completion, says the science complex and classroom cluster is a highly complex project with many components that need to be managed. The main project has spawned at least 20 sub-projects as the domino effect of shifting people around ripples across campus.

Long-range planning to expand the heart of the campus, Branion Plaza, is also positively affected by the location of the new classroom cluster. An expanded plaza would skirt around Day Hall and the Bullring, with the classroom facility marking its eastern edge.

The completion of the science complex and classroom cluster will mark the beginning of a new era for the University, says Sheath.

"We're building it not only to meet our needs when it opens, but also to be useful 10 years after it opens for different sets of needs. So we'll have expanded facilities, reconfigured facilities and new facilities — all of which should improve instruction and the way we do our research, help recruit new faculty and staff, and certainly strengthen our position in the province."

Editor's note: *@Guelph* will continue to print regular updates on project planning for the science complex and classroom cluster. Plans are also under way to hold an open forum about the project for the entire University community in the near future.

*BY STACEY CURRY GUNN*

# Peer Helpers at Heart of Campus Student Services

*Guelph is considered the national leader in peer helper programs and has served as a model for other universities*

STUDENTS helping students. That's what U of G's peer helper program is all about. Launched 17 years ago when 12 students were trained to staff the original Connection Desk, the program has grown to involve some 200 peer helpers in more than 30 units across campus, making this the biggest university peer helper program in Canada.

In fact, Guelph is considered the national leader in this field and has served as a model for similar programs at other universities, says Cheryl Rose, co-ordinator of the peer helper program in Leadership, Service and Involvement Programs.

"The Canadian Association of College and University Student Services has long recognized the program as the most comprehensive because of its intentional student focus and strong central co-ordination," she says.

Trained and supervised by staff and faculty across campus, peer helpers carry out a wide range of student-oriented tasks — planning programs and events, developing and presenting workshops, providing information and resources, referring students to campus and community services, and participating on committees and task groups.

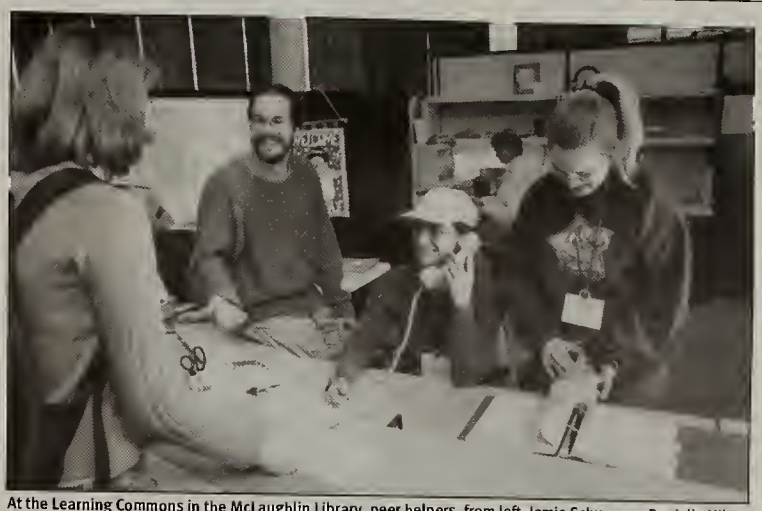
The peer helper program is designed to benefit both the students who serve as peer helpers and the students they serve, says Rose.

"For the peer helpers, the program offers experiential learning opportunities that foster their growth and development and strengthen their links with the University community. For the students they serve, the program provides help with a variety of personal, academic and transitional issues, giving them a point of contact as they strive to meet the daily challenges of university life."

Peer helpers provide a strong sense of connection to the University, serving as a bridge between the student body and the institution and maintaining an open channel of communication among students, staff, administrators and faculty, says Maryann Kope, Learning Services co-ordinator in the Learning Commons. She oversees the work of about 20 peer helpers, whose primary tasks are to provide students with individual assistance in learning, studying and self-management, give workshops on these topics and staff the resource area.

"Students often feel more comfortable sharing problems and concerns with another student, they tend to open up more, and they're more likely to listen to what a peer helper has to say because he or she is close to their own experience," says Kope.

Olivia Rose, a sixth-semester B.Sc. student in nutritional and nutraceutical sciences who is the senior science peer in Learning Services, says many students come to her believing they're the only ones experiencing a particular problem or concern. "And of course, that's not the case. We've all gone through the ups and downs of university, and it's important for these students to know that they're not alone and that there are places like Learning or Writing Services here to help."



At the Learning Commons in the McLaughlin Library, peer helpers, from left, Jamie Schumann, Danielle Hilton and Caroline Lock offer assistance to student Tanja Rohn. PHOTO BY MARTIN SCHWALBE

Kope says the peer helpers in Learning Services serve as role models for students, promoting positive approaches to studying as they share their knowledge and skills. "Our peer helpers are strong, successful students who are interested in learning and have a strong awareness of themselves as learners," she says.

Because of their contributions, peer helpers are critical to the delivery of the unit's programs, says Kope. "They're not just a marginal or peripheral extra, they're the heart of our services. I can't imagine how we would operate without them."

> *"If anyone asked me whether they should become a peer helper, I would say: 'Go for it. It's a challenging but exciting experience, one you will never forget, especially when you think about how much you can actually help University of Guelph students on the whole and, in turn, how much you will help yourself.'"*
>
> Peer helper Olivia Rose

One student program that definitely couldn't operate without peer helpers is the residence cluster program run by University College Connection, says Mildred Eisenbach of the Office of First-Year Studies. For this program, peer helpers live right in residence, where they're assigned to lead one of the 16 student clusters located across campus. All students in the cluster are in the same academic program, as is the peer helper leading the group.

The peer helper serves as a resource for the cluster, provides opportunities for students to get together to discuss issues, organizes programming related to the students' discipline and arranges opportunities for them to connect with students in other disciplines. The peer helpers also work with residence assistants to co-ordinate planning, strengthen communities and emphasize the responsibility of individuals as community members.

Eisenbach says cluster students appreciate having this kind of direct access to a senior student who has experience in their discipline and is able to provide them with wide-ranging information about resources on campus. Students and peer helpers alike benefit from this enhanced academic experience, she says.

The vital role that peer helpers play in the operation of student services on campus is also clearly in evidence at the Student Wellness Centre, says wellness educator Marlene Pfaff, who has more than 20 peer helpers under her wing.

In addition to helping staff the Student Wellness Centre, enabling it to remain open from 8:30 a.m. to 5:30 p.m. Monday to Friday, peer helpers work on various programing projects, including a host of awareness days and weeks such as National Eating Disorders Week. They also develop and facilitate workshops in residences on topics such as low-risk drinking, organize events and information displays, co-ordinate groups such as ABC (Awareness Balance Choice) and AWL (Acceptance Without Limits), and serve on planning committees surrounding a variety of wellness issues.

"Our peer helpers are committed to these issues," says Pfaff. "That's exciting to see. And it's exciting to see how they grow and develop during the time they spend with us."

Pfaff has had peer helpers spend as many as 10 semesters at the centre, although the average is five. Loyal long-timers include eighth-semester molecular biology and genetics student Emily Cowan, a senior peer helper who started volunteering at the centre in her first year and liked it so much, she soon signed up for the peer helper program.

"I think the best part of my involvement at the Wellness Centre is being able to work with such a great group of people," says Cowan. "The peers at the centre come from a wide range of backgrounds, and everyone brings their own special interests and abilities to the group. Another benefit to working at the centre has been learning about all the wellness issues and applying this knowledge to my own life. In the future, I'll be sure to keep in mind the need to balance work with other aspects needed for living a healthy lifestyle."

Cowan, who plans to start graduate school next fall in the field of cancer research, says her peer experience has helped her achieve many of her goals as a student, including developing her leadership and organizational skills. It has also provided her with an opportunity to give something back to the University, she says.

Amanda Ono, a sixth-semester psychology student who is a senior peer in the peer helper program office, says her goals have been met many times over through her peer helper experience.

"The structure of the program is such that its focus is extremely goal-oriented," she says. "Supervisors set goals with their peers at the beginning of the semester, then during the end-of-semester evaluation, they ensure that these goals have been met. If they haven't, action plans are set out to ensure that the needs of the peers are being fulfilled."

Ono, who plans to pursue a master's in industrial/organizational psychology, says the practical experience she has gained as a peer helper is invaluable. "No amount of textbook reading or lectures could teach me the skills that I've learned by being a peer helper. Skills such as dedication, task-persistence, attention to detail, leadership and communication are valuable not only to employers, but also to anyone I can contribute to along the road of life."

Olivia Rose, who plans a career in naturopathic medicine, says that in addition to the knowledge and skills she has acquired through her experiences in Learning Services, one of the most important benefits she has gained is "the satisfaction and fulfilment that I feel when I have helped to complete a project or have consulted with a student who then comes back to see me to say thank you because he or she really appreciated the help I gave."

Kope, Eisenbach and Pfaff all say that working with peer helpers is one of the best parts of their jobs.

"They're very enthusiastic and fun to work with," says Kope. "It's very rewarding to watch them grow and change and develop into highly successful students and to think that their work as a peer helper has played a big role in that."

Eisenbach says she gets a lot of energy from her work with peer helpers. "It's also a great opportunity to keep a finger on the pulse of what student life is really like," she says. "It's easy to lose touch with the student situation when you're working in administration."

Adds Pfaff: "It's great to have this opportunity to get to know these fabulous students. We've developed wonderful friendships, and long after they've graduated, they continue to tell me they wouldn't be where they are today if not for their peer helper experiences."

The three supervisors say their peer helpers also get rave reviews from the students they serve.

"Last semester, I had so many calls from students saying: 'Wow, I can't believe you guys are everywhere,'" says Pfaff. "The peer helpers are making a difference. They're getting the information out there. They're doing it."

Brenda Whiteside, associate vice-president (student affairs), lauds peer helpers and supervisors alike. "Their commitment has played a large role in building U of G's reputation for providing high-quality and innovative student-focused programs and services. In fact, the success of Guelph's peer helper program has become a highly attractive feature of the University, to the extent that some students say they come to Guelph because of the program. I applaud the efforts of everyone involved in making the peer helper program such a great success."

Applications to the peer helper program are accepted during annual recruitment campaigns in February and October and on an ongoing basis depending on position availability. Students can apply online at www.peer.uoguelph.ca or can pick up an application package at Raithby House or the Connection Desk.

*BY BARBARA CHANCE*

INSIGHT

# THE SACRED AND THE PROFANE

*"I think it is critical for us as a society to look at those institutions and relationships and figures we deem sacred and hold up a microscope"*

BY JUDITH THOMPSON

Editor's note: Prof. Judith Thompson, Literatures and Performance Studies in English, was awarded an honorary doctorate of sacred letters from Thornloe University last semester for her award-winning work as a playwright. The following is the address she gave to graduating students at Thornloe, a university of the Anglican communion, federated with Laurentian University in Sudbury.

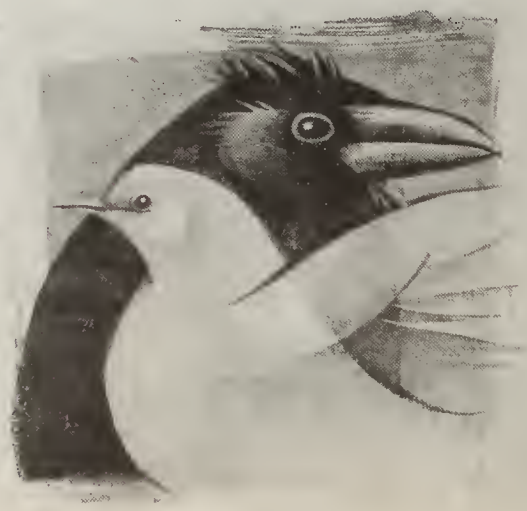


ILLUSTRATION BY SARA TYSON

MUCH OF MY WORK has been described by critics and a few audience members as being "profane." My first play, *The Crackwalker*, was admittedly full of four-letter words. This is because the protagonists were five people on the margins of our society, five people of the "welfare class" who have never found a place inside, the people the arch conservatives speak of when they say: "The poor will always be with us."

Rather than sanitize and elevate their speech, I celebrate it as it is, because in their speech, in their "profane" voices, lie their anger, their abiding, although fading, sense of entitlement and their enormous creativity and resourcefulness in the face of continual oppression. I found no need to lyricize the speech. The natural voices of these characters, as I had heard them on the streets of Kingston, had a poetry that could not be matched by any overwrought imagery. It has been my privilege to give voice to those who have been silenced.

As a person who has been involved in the theatre for 35 years, I have always been acutely aware of the absence of the voice of the oppressed on our stages. It seems the audience is generally more gratified by witnessing their own dramas (tidied up, of course), the dramas of the middle class. They want to watch themselves on stage, but slightly better looking, slightly more articulate and with slightly happier endings.

But I think audiences have a deep hunger for much, much more. I think the theatre audience has a hunger for what is sacred. For it is only the experience of the sacred that is truly transforming. And we, the dramatists, in fact all the artists of the theatre, as well as the artists of the church, have a responsibility to provide, to provoke this experience. And this experience is what the theatre and worship are all about.

The sacred moment in the theatre is the moment we all strive for, the moment when the invisible is made visible. The invisible suffering people who live among us, whom we pass on the streets every day, right there, emotionally naked and raw on the stage, reaching out to us. A triumph for me is when audience members see themselves in the characters — in these disenfranchised and suffering people. They see that they are one and the same, just as the church urges us to see ourselves in Christ.

Not only do I hope to show the audience the invisible people, but I also hope to show the invisible truth, the truth we hide from the world and from ourselves. I want it there, showing itself, for all of us to see, however fleetingly, but long enough for us to recognize it and, most important, to identify those lies in our own lives, which may be hidden but are festering and infecting the whole of our psyche. But uncovering these truths is like pulling off Band-Aids. It is painful, and sometimes the audience will resist and try to keep that Band-Aid on by calling what they are seeing profane and disgusting. After all, the Band-Aid protects a tender wound.

As a child, I would sit in church hoping to see God, staring at the faces in the stained glass windows, looking for the flicker of an eye or a half smile. I never did see or feel God in my church, but rather in the changing of the seasons, in the way my parents said good night to me, the death of my father in my arms, the performance of my first play, then in the births of my five children. I saw the devil, too, in my parents' vicious fighting, in playground cruelty, in racism and classism, in sexual objectification, and in my own ego.

As a dramatist, I offer what is sacred in the profane, and also, just as important, what is profane in what is deemed sacred. I think it is critical for us as a society to look at those institutions and relationships and figures we deem sacred and hold up a microscope. Journalists have begun this journey, uncovering and publicizing corruption in the police forces, the church, the government, within important and highly esteemed people and families. What I would like to show is that the corruption we so frequently find in all these places lies within us all. It is what the church has called "the devil."

When people read newspaper accounts of this corruption, it is too easy for them to separate themselves from the villains. In a successful play, the audience identifies with the characters strongly, so when the character reveals his/her own corruption, the audience, I hope, will see their own, and walk away with eyes opened, transformed.

The theatre is not entertainment but the collective striving for that moment of illumination, which, in my view, is a moment with God. A moment when we are "carved in the palm of Her hand."

If I may humbly offer some advice to you: I would like you to know that every moment of your lives, no matter how banal and boring or unpleasant or ridiculous it may seem to you, is important, is beautiful and terrible, a map of our own still-forming culture — the culture of Canada.

Your life, your stories, are the highest form of dramatic poetry, and if you give the gift of your stories to others, whether in the form of drama or just conversation, it is as healing as the gift of blood.

To quote from my play *Lion in the Streets*: Isobel, the ghost of a child who was raped and murdered 17 years before, stands in a bridal veil on top of a ladder and says:

*"I want to tell you now a secret. I was dead, was killed by lion in long silver car, starving lion, maul, maul, maul me to dead, with killing claws over and over my little young face and chest, over my chest my blood running out he take my heart with. He take my heart with, in his pocket, deep, but my heart talk. Talk and talk and never be quiet, never be quiet. I came back. I take my life. I want you all to take your life. I want you all to have your life."*

# Vet Students Host Series on Animal Health

*Probe lectures will be broadcast live to veterinary colleges at P.E.I. and Quebec*

IN ITS ANNUAL Probe Lecture Series, the Central Veterinary Students' Association (CVSA) will tackle three of the most talked-about issues in veterinary medicine today: increasing interaction between people and wildlife, the grieving process when people lose pets, and the problem of dogs and cats that misbehave and a new hope for treatment.

The student group will host three eminent veterinarians on campus Feb. 7 and 28 and March 8 to explore these and other animal-health concerns with students and faculty at the Ontario Veterinary College. A free public lecture each evening will invite members of the Guelph community to participate in the discussions.

"The Probe Lecture Series is an opportunity for OVC to invite veterinarians from across North America who stand at the top of their fields," says CVSA internal vice-president Trace MacKay, who is organizing the series. The lectures will also be shared with vet students and faculty at the Université de Montréal and the Atlantic Veterinary College in P.E.I. through a live interactive broadcast co-ordinated by the OVC Learning Commons.

The series opens Feb. 7 with Murray Fowler, a North American pioneer of zoological medicine and professor emeritus at the University of California at Davis School of Veterinary Medicine. Also a specialist in camelid medicine and plant poisoning, he will speak to students and faculty at 12:30 p.m. on "What Can Everyday Veterinarians Do to Improve the Health and Well-Being of Wild Animals?" His topic for the 7 p.m. public lecture is "Dealing with Hummingbirds to Elephants — Never a Dull Moment." Both lectures are in Room 1714 of OVC.

On Feb. 28, the CVSA will host Jayne Takahasi, a veterinary services representative for Waltham Veterinary Diets, who has been involved in public education programs on responsible pet ownership and the human-animal bond. She has helped establish therapy programs in numerous health-care facilities in Calgary.

Her first lecture on "Your Final Act of Caring: Pet Loss Support" begins at 12:30 p.m. in Room 1714, followed at 7 p.m. by a discussion of "Pet Loss Support in a Bond-Centred Practice" in Room 1434.

At the evening lecture, the CVSA will present a cheque to OVC to help fund a pet loss support hotline, says MacKay.

The Probe Lecture Series concludes March 8 when 1976 OVC graduate Gary Landsberg returns to his alma mater to discuss "The Veterinarian's Role in Behaviour Counselling." That 12:30 p.m. lecture is also in Room 1714. At 7 p.m. in Room 1434, he will host a public discussion of "Compulsive Disorders in Companion Animals."

Landsberg is a partner in three veterinary practices in the greater Toronto area. He has written extensively on animal behaviour and has hosted his own radio and TV pet talk shows.

The CVSA has received corporate sponsorship for the Probe series from Harcourt Canada, Hills Pet Nutrition Canada, Waltham, Novartis and IAMS.

PROFILE

# REMEMBERING THE PAST GIVES HOPE FOR THE FUTURE

*Grad student has struggled to make peace with memories of a war-torn childhood in Uganda*

BY LORI BONA HUNT

THE DEMONS STILL COME when Paska Otto sleeps. She left the physical reminders of them behind in Uganda 13 years ago: an AK-47 assault rifle, bullets, grenades, the rebel military uniform she wore when she was only 14. But the horrifying memories of being a child soldier in a civil war that ripped her family, village and country apart will never be gone.

Demons of the past.

They followed her from the war-torn villages of Uganda to a Kenyan jail and refugee camp, then all the way to Canada. They would creep into her Scarborough bedroom at night and, later, into her undergraduate residence room at Guelph. They find her even now in the house she shares with seven other students while finishing her master's degree in rural extension studies. They intrude on the 28-year-old's dreams, jolt her awake and make her remember. Remember that she knows the sights, sounds and smells of unspeakable acts, of terror and of death.

For years, Otto hid their appearances, suffering in silence, hoping to forget. She wanted to fit in, to be a normal university student, instead of a woman who heard bombs exploding and saw the faces of the dead in her dreams.

But she doesn't fight the demons anymore. She knows they will come, so she just makes sure that wherever she lives, she has her own bedroom. Privacy makes the unexpected visits, which can sometimes become loud and violent, more bearable. Otto now believes the nightmares serve a purpose. Remembering the past gives her hope for the future.

PHOTO BY DEAN PALMER/THE SCENARIO

"I think that by telling my story, I might help people see their lives, their problems, differently," she says. "The truth does set you free."

When Otto first came to U of G, "it was very, very hard. I didn't want to explain my past to people. I met kids who thought Africa was just one country, and I used to think: 'How could they possibly understand?'"

As she tells her story, it's easy to see why she was initially hesitant. Some of what she has to say is unimaginable, even abominable. When she arrived in Canada in 1989 as a 17-year-old refugee, even the Ugandan community rejected her because of her rebel history. Being abandoned by your own compatriots makes talking to classmates about an adolescence where death was a part of everyday life out of the question.

"In war, you kill people," says Otto. "I'm not going to sit here and tell you I didn't kill people. I was in battle, I used grenades, I fired a machine gun. I know my bullets must have hit people. Do I feel something for those lives I took? Yes, I do, I feel very strongly. But I saw people being tortured, burned alive. Government soldiers would come to the boys' school next to ours and round up some boys at gunpoint and beat them until their chests would break open. How could you not fight? There wasn't a choice."

Otto's soldier's story really begins in that schoolyard. Even though she had never known anything but war and political unrest — Uganda has seen seven presidents and eight regimes — something happened in 1986 that propelled her from being a witness of war to a participant. Her school was invaded by government troops searching for rebel sympathizers. Her father was a police officer in the city, so there was a lot of rumbling in her village that her family sympathized with the government. She worried for the safety of her mother and eight siblings, so she joined the rebels to quiet the rumours. "I thought this was the only way I could protect them."

Barely into her teens, Otto was arrested and incarcerated several times, where she was often beaten and threatened with rape because of her association. She started out as a personal assistant to the rebel commanders, cooking, washing and caring for them when they were ill. The job required her to be at the leaders' sides constantly.

"They would do horrible things to people as I watched," she says, recalling the time a teacher she knew was tortured and hanged in front of her. "He was begging for his life. I kept saying: 'Let him go, let him go.' They didn't. I watched a man die, a man who never did anything to anyone. I still see his face all the time."

One of the commanders knew Otto's mother, "and I think he felt bad about what I was seeing, so he sent me away." She found herself in a military training camp with 70 boys and men and one woman. She would rise at 4 a.m. for running and drills. It was here she learned how to fire a machine gun, reload the magazines and activate grenades.

Shortly after her arrival, the camp was attacked by government troops, and there was talk that the enemy had been tipped off by Otto and the other female soldier.

"There was a big bloody battle, and I ran away with the other woman. She was worried about her family and wanted to go back. I told her she would never make it, but she wouldn't listen; she left. I learned later she didn't make it, that she was killed. At that point, I had no hope, I hated everything. I had seen so much suffering. I did not understand the war. We were fighting against people who spoke our language, killing people we knew. I sort of gave up on life and decided to put myself in God's hands."

After fleeing from the camp, Otto joined a rebel group called the Holy Spirit Movement, headed by Alice Lakwena, a mystic who claimed to be guided by spirits who would deliver their messages through her. Lakwena took Otto under her wing, and a short time later, the teenager was appointed a subcommander in charge of 1,000 troops. She was 15.

Lakwena had a unique battle style that included having her troops sing religious songs instead of using weapons. "Once we just sang for about 45 minutes while government soldiers fired on us," says Otto. "People were dying around me like fish."

She was later ordered to take her troops and return to the front line — and to do more than sing. "I remember we were walking down the road, and the soldiers stood up and started firing and expected us just to sing. But this time, we fired back. We kept walking forward, firing and firing. There were so many dead bodies all over the place, you were actually running through dead bodies. It was horrible."

She pauses for a moment to compose herself before continuing the story. "I remember we got to this village. People were running, screaming, everything was on fire. Some women came out of hiding and asked me to find this man who had been taken away. When I got to him, he was in the middle of some tires, being burned alive. The tires were burning into his flesh. I tried to save him, but couldn't. I just stood there, I was so angry, so I just started firing my machine gun all over the place out of anger. I don't know how many people I killed."

Otto remained with the Holy Spirit Movement until the day the spirits told Lakwena that Otto should be killed for singing a Tina Turner song and disturbing their peace. "Alice pleaded with the spirits for my life," she says, but she eventually left with about 150 other members of the group and went to Kenya. "I was so tired of all the killing and the running. We were always hiding in swamps, and I was so sick with malaria."

Once in Kenya, Otto was captured and imprisoned and later sent to a refugee camp. She applied *for asylum in Canada, was eventually accepted* and arrived in 1989.

"We had always been told that in the West, there was no suffering, it was like heaven," says Otto. "This is what I expected." The second day she was in Canada, she was given $5 for pocket money. "I was going to buy toothpaste and I saw a homeless man. I couldn't believe it. I was so shocked when I saw this man. I thought: 'Why did they let me come here when they have people here who need help?' I gave him the $5."

Otto was eventually offered a home by Glen and Joyce Davies in Scarborough. "They are my godsend family, and they say I am their godsend daughter. They have given me the freedom to be who I am and encouraged me to express myself. They gave me unconditional love for the first time in my life."

Even so, she says, it was a long, long time before she told them about her past and the haunting memories.

It was her adopted family who encouraged her to enrol at Guelph and supported her through her difficult undergraduate years. "I was still having flashbacks. I had one once when I was taking an exam. I just wrote a zero on my test and left. I didn't know how to tell the professor."

She managed to continue with her studies and earned a B.A.Sc. in 1998. At the urging of some of her professors, she then applied to graduate school. She says it changed her life. It was during a special graduate seminar on leadership led by Jim Mahone of the OAC dean's office that Otto finally started talking about her past. "For the first time, I felt I could add something to the world. That was the most valuable thing I ever learned. It was a turning point for me. I realized a kind of peace I never thought I would find."

Otto has returned to Uganda twice, last summer to visit the family she hadn't seen in 13 years, then in late fall to a refugee settlement in Kenya where she met with Lakwena. Both were bittersweet reunions.

"They felt I belong there, that I am their daughter and I complete something in them that is missing. But there are still so many problems in Uganda, I don't think I can work in that system. I think I can do more for them from here. I used to ask myself: 'Why didn't I die?' Maybe the reason is I haven't fulfilled my purpose in the world yet. I still battle my demons, but I have accepted them. Now I just want to do the most good for the most people. I want to change the way people see their lives. I've seen it all, and I know life really is a gift."

# 'I Just Wanted Someone to Tell Me I Could Write . . .

*Faculty in the School of Literatures and Performance Studies in English mentor a new generation of Canadian writers*

"I WAS NERVOUS about submitting my work to get into the course, but I knew that if I could do anything, I would want to do this."

That's how Guelph resident Sandra Sabatini felt when she applied to take a creative writing course at U of G in the early 1990s. She saw herself as a writer, but her work had never been published. "I just wanted someone to tell me I could write, and before that, no one would."

She has received numerous awards since then and last year published her first book, a collection of short stories that explore the ravaging effects of Alzheimer's disease.

"A gifted new writer," said one reviewer. "Her characters are believable . . . and her sympathy, like her talent, is large," said another.

She's enjoying those great reviews, but Sabatini remembers that it was Prof. Janice Kulyk Keefer, Literatures and Performance Studies in English (SLAPSIE), who first told her she was, indeed, a good writer.

Sabatini was accepted into the first creative writing course taught by Kulyk Keefer at Guelph in 1990. Their friendship began on the ground floor of an innovative movement in the College of Arts to attract distinguished writers to its faculty and to allow them to teach and mentor new writers.

"Janice gave me the tools to be able to edit my work, and the course was a great venue for learning a vocabulary for criticism," says Sabatini. "It's hard to listen to criticism and even harder, I think, to give it. It was a great collaboration. I really miss her insight."

The best part about Sabatini's story is that there are many similar ones about other writers who began their training or honed their skills at U of G and are now joining the ranks of their faculty mentors. Six have recently published books of poetry or prose, two will launch their first books this spring, and others are winning awards for individual works, plays, comedy scripts and more.

SLAPSIE is now widely recognized as an incubator for new writers. Its students cite the school's unique approach to combining academic and creative work. U of G is one of the few universities in North America where you can take creative writing courses for credit.

"That's a godsend for some students," says Kulyk Keefer, "because it means they can dedicate time to writing without feeling guilty about it."

She knows that feeling herself. Juggling her own writing career with teaching and family responsibilities for more than two decades, Kulyk Keefer says it's important to find solidarity in a community of writers. An admired poet and novelist, she came to Guelph at the urging of former vice-president (academic) Connie Rooke, who was then chair of English. Their early efforts have been strengthened by the addition of other well-known writers to the College of Arts faculty, including drama professor Judith Thompson, who added playwriting courses to the curriculum when she joined the school in 1992; English professor Thomas King, who arrived at U of G in 1995; and Spanish studies professor Stephen Henighan, who joined in 1999.

Today, SLAPSIE offers beginning and advanced undergraduate writing courses that draw on a wide spectrum of faculty expertise across the college in genres ranging from fiction and poetry to playwriting and radio and television drama. Students are also encouraged to develop their creative writing skills as part of other literature and drama courses. The school offers master's-level students the option of working on a creative thesis or research project, and on an informal basis, an open office door to any faculty member's office on the fourth floor of the MacKinnon Building is an invitation for students to gain feedback on their portfolio of creative work.

Emily Sanford is one student who is taking advantage of those opportunities. In an undergraduate drama course, she and five other students moved beyond acting and directing to actually writing the script for the play they produced. Now enrolled in a master's program, she took a course with English professor Daniel Fischlin last semester where she wrote a play instead of the usual essay assignment. And there's no doubt that her master's thesis under Thompson's supervision will be a creative project.

Sanford and classmate Tony Berto are equally enthused about the opportunity to work with guest instructors like Montreal writer Don Druick and Argentine director/playwright Guillermo Verdecchia, who was writer-in-residence during the fall 2000 semester. Berto has taken all of the creative writing courses Guelph offers at the undergraduate level and is currently participating in a playwriting lab at Toronto's Factory Theatre, but he audited Verdecchia's playwriting course last semester just for the experience.

Karen Houle, who worked on poetry with Kulyk Keefer while doing graduate work in philosophy at Guelph, says she received a good blend of encouragement and objectivity from SLAPSIE faculty. Now on a post-doctoral fellowship at Mount Allison University in New Brunswick, Houle says that from a would-be writer's point of view, "Guelph has a lot of things going for it. It's small enough to be really supportive in a genuine way and large enough to attract a diverse group of established writers."

In recognition of SLAPSIE's impressive credentials in the art of mentoring writers, we recount some recent successes of its graduates.

### SANDRA SABATINI
### LIVING THE DREAM

Sandra Sabatini re-enrolled at U of G during her fifth pregnancy to add the honours designation to her 1981 English degree, then went on to complete a master's degree at Guelph and a PhD at the University of Waterloo. She teaches on the Waterloo campus at St. Jerome's University.

One of Sabatini's first writing accolades came in 1995 when she won a creative writing competition sponsored by the *Guelph Alumnus*. The prize-winning story, *The One With the News*, was later shortlisted for the 1999 Journey Prize and is the title story for her first book, published by Porcupine's Quill.

### KAREN HOULE
### WRITING WITHOUT GUILT

Taking a credit course in creative writing meant that "for three hours a week, I could go and just think about writing and pay attention to that part of my life," says Karen Houle, whose first book of poetry, *Ballast*, was published by House of Anansi Press last April. "That was all I needed to start taking it seriously."

Houle earned a B.Sc. in biology at U of G in the late 1980s, then returned a few years later to do a master's in the philosophy of science. That move put her in the MacKinnon Building, where she bumped into writers like Rooke, Dionne Brand, Esta Spalding and Kulyk Keefer, who were all teaching English. "It was exciting to know people around you who were writing and being recognized for their work," she says. "I can't say enough about the welcoming nature of the department, its open-mindedness."

Houle's poetry draws on her interest in the natural world, and *Ballast* is one of only a few Canadian poetry books to be included in the New York Review of Books in March during national poetry month.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# . . . Before That, No One Would'

### Irene Guilford
### Working on writing

Irene Guilford says she left a career in computing, math and business in 1989 and "went cold turkey" into writing. She wanted to find out whether her desire to write was just a romantic idea or something she could really do.

She explored journalism, magazine writing and short stories. She took creative writing courses at Guelph and the University of Toronto. "It was wonderful to be with other people who don't think you're crazy for trying to write," she says.

Guilford says she found tremendous encouragement at U of G, especially from Kulyk Keefer, whose comments on a piece of fiction would fill the margins of the page. "Writers crave feedback," says Guilford. "That doesn't mean it doesn't hurt when you get it. But if you really love writing, and you're committed and you know this is what you want to do, you just move forward and face it."

She also compliments Kulyk Keefer on her extensive knowledge of other writers and the body of literature written by creative writers about writing process. "Until you learn to trust the lack of structure, the chaos and the unknown elements of creativity, it's nice to have someone to teach you about plot, character development, diction and craft in writing — the basic tools you need to learn," says Guilford.

With U of G faculty support, she earned a place at the Banff Writers' Workshop in 1991 and went back in 1995 with a draft of her first novel, *Embrace*. At that point, Guelph graduate and honorary degree recipient Jane Urquhart helped shape the manuscript, which was published in 1999 by Guernica Editions.

### Tony Berto
### Finding his groove

A Guelph-trained wildlife biologist who studied arctic birds, Tony Berto says he started writing to "keep my mind from rotting" during the months his avian subjects flew north. After tackling newspaper and magazine articles, poetry, short stories and scripts, Berto says he finally landed in a course taught by Thompson, and "she opened my eyes to a whole new world of writing. That's where I am now; I've found my calling."

*Bash* is the first play Berto wrote, and last summer, it won the playwriting competition at the Toronto Fringe Festival. A group of U of G actors and friends put together a theatre company to stage the production, which sold out nearly every performance and was one of the 10 top-selling Fringe productions out of a field of 150 works presented during the festival.

The experience landed Berto a job in the Factory Theatre's playwriting lab. Now he's planning to earn a master's in drama and hopes to stage a second play, *Skated Off, Bobby*, in a campus venue this spring.

### Sonnet L'Abbe
### Opening doors

Bleak poetry and stand-up comedy routines are both on Sonnet L'Abbe's agenda. A writer who likes to create in different media, she has published poetry and short fiction, tried film writing and directing and is now on a scholarship with CBC's Second City troupe.

Writing comedy is hard, says L'Abbe, whose poetry earned her a 1999 *Malahat Review* prize and the 2000 Writers' Trust Bronwen Wallace Award. She took the Second City scholarship for two reasons: the challenge of writing comedy and the possibility of reaching people who don't read poetry and aren't theatregoers. "I want to have those skills so that whatever I write will appeal to a broad audience," she says.

Although the audience for poetry may be more limited, L'Abbe's talent has impressed McClelland and Stewart, which will publish her first poetry manuscript in April. She began working on *Strange Relief* while still at U of G and says she values the experience of receiving criticism from writers like Rooke and Kulyk Keefer and writers-in-residence Austin Clark and 1974 Guelph graduate John Steffler.

### Rick Maddocks
### Combining two loves

"Writing for publication is more successful, but music is more enjoyable," says Rick Maddocks, who sees his career moving back and forth between those two loves. He writes songs and performs with a Vancouver musical group called Palace Flophouse, and his first book of short stories will be published in March by Knopf Canada.

*Sputnik Diner* describes the intertwining lives of young people growing up in a small town in southern Ontario. A story from the collection won the Western Magazine Award last fall.

Maddocks earned a BA in English at U of G, where he took as many creative writing courses as he could. He says the experience instilled a discipline in his writing. He also remembers one particular literature course taught by Prof. Ajay Heble that "opened my eyes to the body of work by Canadian authors."

Maddocks earned an MFA in creative writing at the University of British Columbia and still works on the UBC campus in the School of Occupational and Environmental Hygiene. Right now, he says, he's focused on recording some of his songs and putting notes together for a novel.

### Shannon Cowan
### Learning the business of the craft

Publishing a book may be a dream come true, but it's also a sobering experience, says Shannon Cowan, whose novel, *Leaving Winter*, was launched by Oolichan Press in September. Ensuring the book's success requires a whole new set of promotional skills and a lot of time, she says.

A businesswoman who combines writing and design work in her Vancouver Island consulting business, Cowan says there's some truth to the statement that a first book "isn't about anything except getting a better contract the second time around." From the writer's point of view, however, "it's a joy to have other people read the book and say 'this spoke to me.' Writing is why you do it, obviously. It's something you have to do."

Cowan's first novel is about a grandmother/granddaughter relationship as they work through skeletons in the closet. A second book is under way.

*BY MARY DICKIESON*

# Get the Jump on WebCT During Reading Week

Teaching Support Services will offer a WebCT winter institute Feb. 19 to 23 during Reading Week for instructors who are currently using or developing WebCT-based courseware.

The week-long institute will include presentations and hands-on workshops for faculty and instructional staff keen to learn more about this University-supported course-development software and some complementary programs.

Formal sessions will be followed by open laboratory times where individual help will be available for those working on specific course-development projects.

Campus instructors can register for some or all of the sessions by accessing the TSS Web site, www.tss.uoguelph.ca, and selecting the link "WebCT Winter Institute." If you have questions about the institute, contactl Mary Nairn at Ext. 3571 or mnairn@ uoguelph.ca.

# Nominees Sought for Alumni Awards

The U of G Alumni Association invites nominations for its three annual awards of excellence — Alumnus of Honour, Alumni Medal of Achievement and Alumni Volunteer Award.

The Alumnus of Honour award celebrates the achievements of alumni who have brought great honour to their alma mater through professional, community and personal endeavours. The Alumni Medal of Achievement recognizes a graduate of the last 15 years who has achieved excellence through contributions to country, community, profession or the world of arts and letters. The Alumni Volunteer Award honours alumni who have demonstrated loyalty and commitment to their alma mater by supporting U of G through volunteer work.

Nominations for these awards are due Feb. 23 and should be submitted to Mary Ann Grape, UGAA Awards Committee, c/o Alumni House.

Nominations are also sought for the OVC Distinguished Alumnus award, which recognizes an OVC graduate who has brought honour to the college and fellow alumni through leadership and service to country, science, education, profession or alma mater. Nomination deadline is Feb. 28. Nomination forms are available at Ext. 6544.

In addition, the School of Hotel and Food Administration seeks nominees for the George Bedell Award of Excellence, which is presented to a HAFA graduate who best represents the school in professionalism, achievement and contributions to the hospitality industry. Nomination deadline is Feb. 28. For more information, call Laurie Malleau at Ext. 2102.

# Letters

## ADDITION MEETS, EXCEEDS STRINGENT BUILDING CODES

We would like to clarify some of the misleading statements that were made by Prof. Michael Brookfield regarding the new addition to the Albert A. Thornbrough Building (*@Guelph* Jan. 17).

The structure of the building was designed by one of Canada's leading structural engineering firms, with successful projects completed around the world. The system meets and exceeds the same stringent building codes as imposed on all new buildings in Canada. The seemingly light structure is one result of its efficient design that eliminates excess material.

The large panels of glass used in isolated areas around the building were chosen to bring diffused natural light into the corridors and classrooms and offer intermittent views out into the various landscaped courtyards around the building. The system that was used is made of double-glass sealed units with heat-absorbing Low E glass and translucent panels. This is a common energy-efficient cladding system used throughout North America.

The large "artistic" glass panels referred to by Prof. Brookfield, located on the interior of the building, are in fact a requirement of the Ontario Building Code and serve as smoke baffles to prevent smoke from flowing up through the interconnected floors in case of fire. The glass is eight-mm, tempered, sandblasted glass safely secured with bolted connections, complete with rubber gaskets, to welded steel angles. The panels are also butt-jointed together on end with structural silicone sealant.

The plaza located on the north side of the building occupies a space at the intersection of the two main pedestrian malls and was designed as a public gathering space on campus. The design responds to the criteria set forth by the University for large open areas to support the gathering of people for various activities throughout the year.

The surface had to facilitate easy maintenance and allow barrier-free access to the building from various points. Pedestrian flow patterns required level access to the plaza from three locations, all of which are at different existing grades, requiring the plaza to be sloped to achieve these connections without the use of stairs.

The acid etching that was used to matt the surface of the concrete is an industry-wide standard, and the solution was diluted and neutralized before it was washed off. We continue to monitor the slip-resistance of the plaza. There are exterior benches that have yet to be installed around the corners of the planter curbs, as well as near the entrance vestibule, to add comfort for pedestrians and protection to the planting beds.

The building has received an extremely good response from the design community, including architects from across North America. We believe its innovations will prove, in the long run, to be a very positive addition to the University of Guelph.

Paul Hammond
Teeple Architects Inc.

## MEDIA REPORTS GO UNCHALLENGED

I thank Lev Tarasoff for correcting my summary of the history of the west Antarctic ice sheet (*@Guelph*, Jan. 17). As for its future, I presume we agree that only another ice age would guarantee its long-term stability. We might even agree that an ice age would, on balance, be a real downer. Also, I am aware that the inverse of the solar cycle is not the same as irradiance, and I'm happy to have that clarified as well.

I also wish to say that I respect Lev Tarasoff's defence of scientific prohity and precise wording. I am encouraged by his willingness to speak up on important issues. But I'd be even more encouraged if, once in awhile, he and his colleagues would speak up against climate alarmists.

The media reports of this month's Intergovernmental Panel on Climate Change meeting in Shanghai were riddled with half-truths and florid fear-mongering. Professional scientists let it all go unchallenged. But whenever anyone else tries to counter the green propaganda, he or she gets nitpicked to death on every little detail and accused of playing the harlot to big business. This is not helpful.

If the reader can bear the tedium, let me end my contributions on this topic by restating the policy problem. The same models that predict warming tell us it will happen with or without Kyoto. The protocol is about as "precautionary" as hanging a giant rabbit's foot from the CN Tower.

Nothing will be averted or even appreciably delayed by the emission reductions prescribed under Kyoto. But the costs of Kyoto mean, among other things, that we will be less able to cope with future weather-related problems, whatever their magnitude or cause. That's why Kyoto is a bad idea. I lament that I have not convinced all readers, but at least I have the immense satisfaction of being right.

Prof. Ross McKitrick
Department of Economics


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# Guelph Hosts First Students on Commonwealth Exchange

*University presents inaugural Leonard Conolly Scholarship*

Decked out in brand-new winter wear, exchange students Freda Glover, left, Meng Foo Leong, top, and Yit Soo Chong are getting acclimatized to their first taste of cold weather. PHOTO BY MARTIN SCHWALBE

THERE HAVE BEEN a lot of firsts for Freda Glover, Yit Soo Chong and Meng Foo Leong since arriving in Guelph earlier this month.

The three students from Ghana and Malaysia are the first exchange students to come to Canada and U of G under the Commonwealth University Study Abroad Consortium (CUSAC). U of G has been a member of the consortium, which involves some 75 universities around the world, for about five years.

"We've been sending students abroad as part of the CUSAC exchange for some time," says Prof. Jim Shute, director of the Centre for International Programs, "but this is the first time funding was available for students from the south to come north. It is a pioneering effort, thanks in large part to the funding of these awards from the Association of Commonwealth Universities."

In addition, Leong is the first recipient of U of G's Leonard Conolly Scholarship, named in honour of U of G's former associate vice-president (academic). The fellowship helps support an exchange student from a developing country studying at Guelph.

On top of that, the three students literally stepped off an airplane and right into the snowiest winter Guelph has seen in recent years. It's the first time any of them has experienced cold weather. All three quickly discovered just how useful down jackets, hats, mittens, scarves and sweaters can be.

Welcome to Canada.

"We have indoor skating rinks at home where they make snow and ice," says Leong, "but nothing real, nothing like this."

The weather isn't the only thing the students have had to adjust to. Although all possess excellent English skills, they say the different teaching and learning styles here have taken some getting used to. Glover, who is from the University of Ghana, is studying agricultural economics and taking five courses this semester. She has become acquainted with numerous U of G faculty over the years because Guelph has had a long relationship with her university. Chong and Leong are from Universiti Sains Malaysia. Chong is studying microbiology and taking five courses; Leong, an English student, is enrolled in three.

Aside from academics, what's impressed them most about U of G so far? "The eating environment — it's nothing like we have at home," says Leong. "Eating here is like eating in a restaurant."

Chong says for her, it's the friendly, outgoing people she's met in International House, the residence she's staying in.

And Glover says she enjoys comparing the agri-food systems in Canada with those in Ghana. "It is very interesting to live in a place that experiences four seasons," she says.

Adds Chong: "I can't wait to see spring. I want to see the maple leaf."

*BY LORI BONA HUNT*

## @GUELPH PUBLICATION SCHEDULE

| Publication Date | Deadline | Publication Date | Deadline |
|---|---|---|---|
| Feb. 14 | Feb. 5 | April 11 | April 2 |
| Feb. 28 | Feb. 19 | April 25 | April 16 |
| March 14 | March 5 | May 9 | April 30 |
| March 28 | March 19 | May 23 | May 14 |


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# Eight Receive CIDA Awards

EIGHT U OF G graduate students are among the recipients of the Canadian International Development Agency's (CIDA) Awards for Canadians for 2000. The awards allow master's students to conduct field research abroad.

Three of the Guelph recipients are in the School of Rural Planning and Development. Barbara Johnson will do research in South Africa for her project on "Women's Activities as a Resource to Achieving Sustainable Livelihoods to Eradicate Poverty." Jana Kelly will do "An Examination of the Impact of Women's Participation on Macroeconomic Policy Formulation in Mozambique." Shawn Stonehouse will study "NGO-Private-Sector Co-operation: Integrated Development in the South" in Nicaraugua.

Two recipients are collaborative international development students. Marian Biasutti received an award for her project on "Cultivating Democracy: An Examination of Community Participation in a Brazilian Agricultural Co-operative." Paula Binnie was awarded support for her work on "Identifying the Barriers: Chadian Girls Not in School" in the Republic of Chad.

Romi Oshier of the Department of Land Resource Science received a CIDA award to study "Biologically Induced Phosphate Dissolution to Increase Food Security for Small-Scale Farmers in Eastern Uganda."

Christopher Slade of the Department of Agricultural Economics and Business will travel to China for his project, "Business Management Training Program for Yunnan Overseas Travel Corporation."

Laura Thomas of the School of Engineering will travel to Mexico for her work on "Applying Integrated Solid-Waste Management Planning in Tamaulipas, Mexico: Opportunities and Challenges."

# APPOINTMENTS

Cindy Adams joined the Department of Population Medicine as assistant professor Oct. 1.

Marc Coppolino of the Hospital for Sick Children will join the Department of Chemistry and Biochemistry as assistant professor May 1.

John Cranfield of Winnipeg will join the Department of Agricultural Economics and Business as assistant professor July 1.

Kevin James of Edinburgh University was appointed assistant professor in the Department of History Dec. 1.

Julang Li was appointed assistant professor in the Department of Animal and Poultry Science Sept. 1.

Rui Lu of Bethesda, Maryland, joined the Department of Molecular Biology and Genetics as assistant professor Jan. 1.

Michele Oliver joined the School of Engineering as assistant professor Jan. 1.

Manish Raizada of Stanford University was appointed assistant professor in the Department of Plant Agriculture Jan. 1.

Carl Svensson of the Lawrence Berkeley National Laboratory in Berkeley, Calif., joined the Department of Physics as assistant professor Jan. 1.

Wlodek Dobosiewicz of Monmouth University has been appointed chair of the Department of Computing and Information Science for a five-year term that began Jan. 15.

Prof. Richard Zytner has been appointed acting director of the School of Engineering effective Jan. 1 to Dec. 3, 2001.

# CFI Funds Will Buy New Equipment

*Continued from page 1*

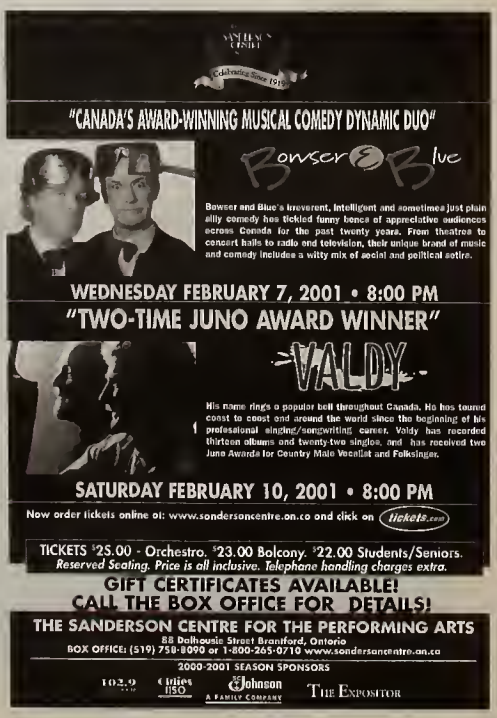
in the air above crops, our new model allows for measurements of gas flux, including nitrous oxide released from the soil, close to the soil surface," says Warland. "This will give us more complete information on greenhouse gas exchange that should aid in both mitigating and adapting to climate change."

CFI announced the award, along with other recent New Opportunities winners, in Ottawa Jan. 22. Warland's project, titled "Turbulence and Radiation Profiling Systems for Exchange Studies Inside Plant Canopies," will receive $72,605.

"I'm just delighted with Jon's CFI award," says Prof. Terry Gillespie, chair of the Department of Land Resource Science. "He is our new young faculty member in the agricultural meteorology area. His combination of theoretical and experimental skills is going to be a powerful force in our department's continuing research into the role of gas exchange between the atmosphere and agricultural or forest surfaces and its impact on climate change issues."

With matching funding, U of G researchers have received more than $50 million in CFI support to date. Some $3 million of this has gone to U of G researchers through CFI's New Opportunities programs.

*BY ALEXANDER WOOLEY*



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Rival automatic rice cooker/steamer, never used, still in box, Ext. 6580.

1987 Volkswagen Golf, automatic, 76,000 kilometres, no rust, excellent condition, 836-3231 or send e-mail to pgoodwin@uoguelph.ca.

1998 Volkswagen Cabrio, power windows, air, CD player, other extras, 70,500 km, excellent condition, 705-739-2384 or send e-mail to seair@hotmail.com.

Washing machine and gas dryer, recently refurbished, Ext. 4794 or 780-0572 evenings.

Crib/junior daybed, five-drawer change table, seven-drawer armoire, white with brass trim, meets government regulations, excellent condition, Stan, Ext. 8981 or 824-6799.

1989 Toyota Tercel, two-door, new battery, good condition, runs well, 837-3253.

*History of Art* by H.W. Janson and Anthony F. Janson, revised fifth edition, hardcover, new, Ext. 6348 or 766-9012 after 6 p.m.

Couch and chair in pastel colours, clean, not faded, send e-mail to bardwell@ovc.uoguelph.ca.

Sofa and loveseat, sofa needs new seat cushions; double bed with mattress, springs, headboard and footboard, 822-4085 between 5 and 9 p.m.

KitchenAid Superba washer, top of the line, heavy-duty, five years old, excellent condition, 822-2904 or 837-7990.

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Bedroom in shared apartment, close to University, mall and bus stop, non-smokers, no pets, parking, laundry, available March 1, $325 a month inclusive, 763-9411 or home_in_guelph@mail.com.

Executive one-bedroom walkout apartment in south-end home, full kitchen and bath, air, cable, washer, parking, private entrance, non-smokers, no pets, suitable for single professional, available April 1, $700 a month inclusive, 826-0787.

Basement room with four-piece bath, shared laundry and kitchen, 10-minute drive to campus, $450 a month inclusive, 837-8174 or dottier@uoguelph.ca.

Room for quiet mature student, shared kitchen and laundry, private bath, living room, $400 a month inclusive, 821-9219.

Room for female student or young professional in Kortright/Scottsdale area, laundry, dishwasher, parking, no pets, non-smokers, $370 a month plus utilities, available immediately, 780-0571.

## WANTED

Winter convocation ticket for Feb. 21, 10 a.m., Corrie, 821-7792 or send e-mail to corriegriffiths@home.com.

Graduate student, wife and baby require accommodation immediately, 905-615-0963 or ramirog@uoguelph.ca.

Used four-drawer filing cabinet, Ext. 2965.

Ride between Hamilton and Guelph, Monday, Wednesday and Friday, willing to share costs, Juliette Merritt, 905-527-1694 or merritt@mcmaster.ca.

Professional couple with two-year-old daughter needs three- or four-bedroom home in downtown area for September, moving from Vancouver, send e-mail to leanne.shafir@ag.gov.bc.ca.

## AVAILABLE

Child care or elderly care for days or weekends, Violet, 824-4491.

Free to good home, 10-month-old husky/shepherd pup with crate and toys, well-behaved with level-one training, needs fenced backyard, 829-3224 or dcouture@uoguelph.ca.


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# EVENTS

## ARBORETUM

Horticulturist Henry Kock will lead half-day workshops on gardening from a natural perspective Feb. 15 from 9 a.m. to noon and 1 to 4 p.m. Cost is $20. Registration and payment are required by Feb. 1.

Theatre in the Trees presents the dinner-theatre comedy *Something for Charlie* by Neville Bryant Saturdays beginning Feb. 3. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are $49 and are available at Ext. 4110.

The Children's Trio presents *The Happy Prince* Feb. 6 at 6:30 p.m. at the Arboretum Centre. Tickets are $5 and are available at Ext. 2113.

The Arboretum is hosting a bus trip to the Flower and Garden Show at the Metro Toronto Convention Centre March 15 from 9 a.m. to 6 p.m. Cost of $32 includes bus and show admission. Registration and payment are required by Feb. 15. Call Ext. 4110.

## ATHLETICS

The women's hockey Gryphons host Ottawa Feb. 2 at 7:30 p.m., Queen's Feb. 3 at 1:30 p.m. and Brock Feb. 7 at 7:30 p.m. The men's team is at home to Laurier Feb. 3 at 7:30 p.m. and Brock Feb. 10 at 7:30 p.m.

The basketball Gryphons host Brock Feb. 10, with the women playing at noon and the men at 2 p.m.

The women's volleyball Gryphons are at home to Lakehead Feb. 3 at 1 p.m. and McMaster Feb. 10 at 6 p.m. The men's team plays McMaster at 8 p.m.

## CONCERTS

The Thursday noon-hour concert series continues Feb. 1 with pianist Alexander Tselyakov and Feb. 8 with soprano Carolyn Sinclair and Michael Jarvis on harpsichord performing works by Caccini, Giordani and Purcell. On Feb. 15, classical guitarist Pierre Beaudray performs works by Villa Lobos and Bach. The concerts are held in MacKinnon 107. Admission is free, but donations are welcome.

## FORUM

The School of Languages and Literatures presents Prof. Alain Thomas discussing "Dangerous Liaisons and Other Pitfalls of French Pronunciation" March 1 at 4 p.m. in the University Club.

## LECTURES

World-class flamenco dancer Carmen Romero, who performs Feb. 8 at the River Run Centre, will speak in the Spanish program in the School of Languages and Literatures Feb. 7 at 12:30 p.m. He will discuss the history of flamenco, women in flamenco and how music forms such as jazz, Brazilian and Afro-Cuban are influencing the art form. To attend the talk, call Prof. Dorothy Odartey-Wellington at Ext. 3179.

Third Age Learning-Guelph's lecture series for retired people has space in its afternoon series, which features former U of G chief librarian John Black discussing "Communications" Feb. 7 and Prof. Ann Gibbins, Animal and Poultry Science, considering "Genetically Manipulated Animals: The Trail Blazers" Feb. 14. The lectures begin at 1:30 p.m. at the Arboretum.

## NOTICES

The Stress Management and High Performance Clinic is offering a session on the basics of preventing repetitive strain at computer tasks Feb. 7 from 7 to 9 p.m. in UC 441. Cost is $5 for U of G students, $20 for others. For more information, leave a message at Ext. 2662 or visit the Web site www.uoguelph.ca/~ksomers.

The Canadian Association for the Study of International Development is calling for papers for its 17th annual conference May 27 to 29 at Laval University. This year's theme is "Language, Culture and Community in International Development." Submission deadline is Feb. 16. For more information, contact program chair Trish Paton at 306-566-7949 or patricia.paton@cucs.com or visit the Web site www.casid-acedi.ca.

The Council of Minister of Education, Canada, administers the Summer Language Bursary Program, offering students an opportunity to learn their second official language during a five-week session this summer. Application deadline is Feb. 15. For more information, call 1-877-866-4242 or visit the Web site www.cmec.ca/olp.

The Canadian Network of Toxicology Centres, the Centre for Toxicology, the Department of Environmental Biology and the Office of Open Learning present a two-week, graduate-equivalent open learning course on "Advanced Principles of Toxicology" April 16 to 27. The course is aimed at professionals working in toxicology-related fields. For information, call 767-5000 or visit the Web site www.open.uoguelph.ca.

During the winter semester, the U of G Library and the OVC Learning Commons are open from 8:30 a.m. to midnight Monday to Friday and 10 a.m. to midnight on weekends and holidays.

## SEMINARS

The Department of Botany's plant biology seminar series continues with Ronald Brecker of Global Tox discussing the "History of Toxicology" Feb. 2 at noon in UC 429. On Feb. 9, Joan Orr explains "Modification of Food and Assessment of Food Safety Through the Ages" at noon in MacKinnon 237.

"The Relative Contribution of Density- and Trait-Mediated Indirect Effects in an Aquatic Community" is the topic of Earl Werner of the University of Michigan in the Department of Zoology seminar series Feb. 2. On Feb. 9, Helene Cyr of the University of Toronto considers "Scaling of Temperature Variability From Land to the Oceans." The seminars begin at 3 p.m. in Axelrod 265A.

The Axelrod Institute of Ichthyology presents graduate student Suzanne Gray discussing "Resource Competition and Adaptive Divergence in Sticklebacks" Feb. 6 and graduate student Alastair Wilson explaining "Natural Selection and Heritability for Size and Growth Rate in a Stream Salmonid" Feb. 13. The seminars begin at 12:30 p.m. in Axelrod 168.

The Department of Physics seminar series features Pekka Sinervo of the University of Toronto Feb. 6 and Ian Affleck of the University of British Columbia Feb. 13. The seminars are at 4 p.m. in MacNaughton 113.

Next up in the biochemistry seminar series is Carol Creuzenet of the Department of Microbiology examining "Biochemical Characterization of New Sugar-Nucleotide Modifying Enzymes From *Pseudomonas aeruginosa* and *Helicobacter pylori*" Feb. 8 at noon in MacNaughton 222.

The Department of Microbiology presents Rich Silver of the University of Rochester Medical Centre discussing "Export of the Polysialic Acid Capsule of *Escherichia coli* K1" Feb. 8. On Feb. 15, Danuta Radzioch of McGill University considers "Post-transcriptional Regulation of TNF-_ Gene Expression." The seminars begin at 1:30 p.m. in Food Science 128.

"Slaves on Screen" is the focus of Natalie Davis of Princeton University in the Department of History's seminar series Feb. 13 at 10 a.m. in MacKinnon 226.

## TEACHING SUPPORT

Teaching Support Services' winter series of training and development opportunities for faculty and teaching staff continues Feb. 7 with "Web-Based Assessment," "Design Café" and an ID grant information session, Feb. 9 with "Choosing the Right Tool: Using Technology to Enhance Learning," Feb. 13 with "PowerPoint I: The Basics" and Feb. 15 with "HTML II: Looking Under the Hood." Register online at www.tss.uoguelph.ca.

## THESIS DEFENCE

The final examination of Wayne Bezner Kerr, an M.Sc. candidate in the Department of Zoology, is Jan. 31 at 2 p.m. in Axelrod 265A. The thesis is "Early Experience and the Development of Following Behaviour in Trumpeter Swan (*Cygnus buccinator*) Cygnets." The adviser is Prof. Tom Nudds.

## COMMUNITY EVENTS

The Guelph Chamber Choir hosts a *Sound of Music* Singalong Feb. 24 at 7:30 p.m. at Creelman Hall. For ticket information, call 763-3000.

The Wellington County Museum and Archives presents an exhibition of textiles Feb. 2 to Oct. 7. On Feb. 18, the museum hosts a Heritage Day festival from noon to 4 p.m., featuring multicultural displays, entertainment and food.

The Guelph Spring Festival is looking for donations of hidden treasures and useless trinkets for its gigantic garage sale slated for April 1 at the Guelph Farmers' Market. For pickup, call the festival office at 821-7570. Pickup deadline is March 30.

The Guelph Historical Society meets Feb. 6 at 7:30 p.m. at St. Andrew's Church. Guest speaker Norm Jary offers personal reflections on public life.

McCrae House hosts a Valentine tea Feb. 14 at 2 p.m. Tickets are $6. Reservations are required at 836-1221.

Guelph Little Theatre presents Neil Simon's *Rumours* Feb. 1 to 4 and 8 to 10. For ticket information, call 821-0270.

The Royal City Quilters Guild meets Tuesdays at 7:30 p.m. at Westwood United Church on Willow Road.

The Elora Festival is looking for donations of books, music, CDs and tapes, puzzles and games for its annual book sale May 5 and 6. For more information, call 846-0331.

# English Prof Tunes Up For Launch of Book on Jazz

*Author provides analysis of social and cultural context of dissonant jazz, drawing on personal observations, anecdotes and cultural theory*

ENGLISH PROFESSOR and jazz authority Ajay Heble will celebrate the launch of his new book, *Landing on the Wrong Note: Jazz, Dissonance and Critical Practice*, with a concert and reception Feb. 11.

Heble, who launched the Guelph Jazz Festival in 1994 and remains its artistic director, will improvise a piano duet with local award-winning percussionist Jesse Stewart. Heble is excited about his first concert in Guelph in seven years.

Prof. Ajay Heble
PHOTO BY MARTIN SCHWALBE

"It's going to be invigorating and challenging, especially since we're performing in a duet situation with just piano and drums."

Heble's book is an analysis of the social and cultural context of dissonant jazz, drawing on his personal observations, anecdotes about the Guelph Jazz Festival and cultural theory.

"The first lesson in improvisation is that there are no wrong notes," he says. "I'm interested in what the idea of 'wrong notes' means for jazz practitioners and how it relates to key discussions in contemporary cultural studies about issues such as power, identity, history, representation and social change.

"Dissonance is a powerful and compelling force, particularly for African-American musicians," says Heble. "It stands outside mainstream jazz and retells history in a new way." As examples, he cites an avant-garde reinterpretation of Barbara Streisand's *The Way We Were* by David S. Ware and John Coltrane's hour-long rendition of "My Favourite Things" from the musical *The Sound of Music*.

"The use of dissonance suggests there are different ways to hear history," he says. "In effect, dissonance offers the chance to hear the world anew. It's an opportunity for encounters with radically different orders of historical experience."

The concert will take place at Chalmers United Church at 3 p.m., followed by a reception and book launch at The Bookshelf at 4 p.m. Tickets are available at The Bookshelf, at the Guelph Jazz Festival office and at the door.

*BY STACEY CURRY GUNN*

FEBRUARY 14, 2001

# @GUELPH

VOL. 45, NO. 3

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IN THIS ISSUE

3 **NEW** fine art course brings high tech into the studio.

4 **INTERNATIONAL** Year of the Volunteer is a good time to get out and get involved.

5 **TECHNICAL** whiz builds a Web site that generates fans around the world.

5 **FISHERIES** and aquatic sciences journal celebrates its first century.

## HALOS THAT HURT LESS

Prof. John Runciman, Engineering, and undergraduate student Stacy Bullock are developing a new method that tests the potential performance of the pins that hold in place the neck halos used to help neck injuries heal. The researchers are also testing a new pin design that they believe will be much less painful. See story on page 2.

PHOTO BY MARTIN SCHWALBE

# U of G, Rutgers Combine Expertise

*Partnership will boost U.S. market presence of distributed learning*

THE GUELPH GRYPHON is flying south this winter, thanks to a new partnership between U of G's Independent Study (IS)/@access and Rutgers University, the state university of New Jersey.

The agreement, signed last September with the Rutgers Office of Continuing Professional Education and taking effect this year, capitalizes on the two institutions' expertise in horticultural and turf sciences, as well as Guelph's established reputation for delivering high-quality distributed-learning programs, to help U of G establish stronger market presence in the United States.

The partnership will explore the future development of Guelph/Rutgers branded diploma and certificate e-courses in horticulture, landscaping and turf management offered to American adult learners, opening up vast new markets for the already successful programs.

"Rutgers will be able to select the courses they want from our roster and repurpose them for their needs," says Bill Culp, director of IS/*@access*. "In return, we will get a marketing channel into the United States through a highly visible partnership with Rutgers, an eminent academic institution."

Culp says Rutgers has a strong reputation in turf, landscape and horticultural research and teaching,

*Continued on page 6*

# Four to Receive Convocation Honours

*650 degrees, diplomas to be awarded at winter convocation ceremonies in War Memorial Hall*

U OF G WILL AWARD three honorary degrees and some 650 degrees and diplomas during winter convocation ceremonies Feb. 21 and 22 in War Memorial Hall.

Honorary degrees will be presented to Louis Siminovitch, a molecular biologist who helped develop the Ontario Cancer Institute and Toronto's Hospital for Sick Children; leading Canadian physicist George Ewan; and Peggy Knapp, who is known nationally and internationally for her work with rural women and families. In addition, retired fine art professor Margaret Priest will be named University professor emerita.

Convocation begins Feb. 21 at 10 a.m. with a ceremony for CBS and OVC. Siminovitch will receive a doctor of science degree and will address the graduating class.

Professor emeritus at the University of Toronto and emeritus director of research at Mount Sinai Hospital, Siminovitch holds seven honorary degrees and is considered one of Canada's most distinguished living scientists. After earning a PhD from McGill University in 1944, he went on to pursue studies on bacteriophage in France that now form the underpinnings of modern molecular biology. Author of more than 200 papers, he is also known for his contributions to science administration and continues to be an advocate for Ontario's research community.

At 2:30 p.m., the ceremony will honour graduates of the College of Social and Applied Human Sciences, with retired psychology professor Ernest Dalrymple-Alford giving the convocation address.

Louis Siminovitch

Peggy Knapp

George Ewan

Margaret Priest

On Feb. 22, Ewan will receive a doctorate of science and will address the graduating class at the 10 a.m. ceremony for CPES and the College of Arts.

A professor emeritus at Queen's University, Ewan has worked in Canada, the United States, Europe and Japan. Author of more than 100 papers and book chapters, he is known for helping to create the lithium-drifted germanium detector, which became a standard tool for gamma ray measurements worldwide. He was also Canada's leader of an international collaboration to study neutrino particles emanating from the sun.

Ewan is the father of Prof. Elizabeth Ewan, History, who will be on the stage to hood her father as he receives his honorary degree.

Priest will also be honoured during the 10 a.m. ceremony. She was already a notable member of the pioneering generation of British feminist artists when she joined U of G's fine art program in 1983. Known for her drawings, prints and paintings, she has exhibited her work regularly in the United Kingdom, United States and Canada.

In 1994, Priest received a Governor General's Award for Architecture for *The Monument to Construction Workers*, a sculpture in the Bay/Adelaide Park in Toronto. The project had earlier won the Canadian Architect Award of Excellence. She has also earned kudos for teaching, winning awards from the Ontario Confederation of University Faculty Associations in 1996 and the U of G Faculty Association in 1997.

At the 2:30 p.m. ceremony for OAC, Knapp will receive a doctorate of science and deliver the convocation address. Knapp, whose father, George Jones, received an honorary degree last summer for his contributions to crop science, is also known for work related to agriculture. She has dedicated her life to the education of rural women and families, serving as president of the Federated Women's Institutes of Ontario and Canada's president to the Associated Country Women of the World. She is also a member of the Canadian Agricultural Hall of Fame.

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# Easing the Pain of Healing

*Testing methods for halo pin performance are being improved*

NECK HALOS — metal braces used to help neck injuries heal — can be a real pain, literally. The pins that hold them in place must be drilled into the user's skull, and right now, they have a tendency to loosen and slip, with predictably painful results.

Enter Prof. John Runciman, Engineering, and Stacy Bullock, an undergraduate student in biological engineering. They're developing a new method that tests the potential performance of the pins currently being used and they're also testing a new pin design that they believe will be much less painful.

"This research could be far-reaching," says Bullock. "It's encouraging to know that it's going to be used to help people."

The halo is worn around the head and supported on the shoulders. It does for necks what plaster casts do for broken legs and arms; it immobilizes the injury while allowing the patient to remain active.

But unlike casts, halos must be held in place by pins fastened a few millimetres into the skull in various strategic places. Despite the strategic placement, however, the pins tend to loosen from the day-to-day pressures exerted on them by the movements of the patient. When that happens, the pins must be removed and reinserted into less optimal locations, increasing the chance of loosening a second time. Particularly troublesome are the front pins in the forehead because patients tend to put significant forward pressure on them from such activities as getting out of bed or a chair.

Until now, the effectiveness of these pins in securing the halo in place without loosening was tested using only clean bone from the skull, without looking at the effects of a tissue layer (the periosteum) that surrounds the skull. The periosteum is a fibrous outer "skin" that is found around most bones in the body. Although this layer was previously thought to be insignificant to the performance of the halo pins, Runciman and Bullock's evaluation showed significant faults with old testing methods for the pins, which have led to misleading results and painful consequences for victims of neck injury.

"Our results indicate that previous studies conducted without the periosteum have probably overestimated the performance of the pins," says Runciman. "We compared testing with and without this layer and have achieved more clinically relevant results."

In her study, Bullock clearly found the periosteum to significantly reduce the ability of the older pin to hold its position. This means when the periosteum was present — a more realistic situation — it took much less pressure to cause painful loosening and dragging than originally estimated through testing without the layer. It seems the periosteum actually absorbs some of the force used to insert the pin and twists around it, keeping it from adequately embedding into the skull. Although the pin would appear to be secure, not being deep enough in the skull would cause it to loosen and drag through the skull.

Runciman and Bullock compared the performance of two pin designs using bone with and without periosteum. In addition to demonstrating the impact of periosteum on pin effectiveness, the study was used to retest a new pin design to obtain Food and Drug Administration approval for use, which was granted in September 1999. The new pin had been developed by Runciman while he was working for a private firm before joining U of G.

The researchers evaluated pin performance on the basis of how much force could be applied to the pins before causing adverse effects such as loosening or dragging. In trials with and without the periosteum, the new pins performed better than the old, even showing improved performance when periosteum was present over when it was absent. Further clinical studies are required to accurately assess the performance of the new pins, says Bullock.

*BY JENNY DOBBIN*
*OFFICE OF RESEARCH*

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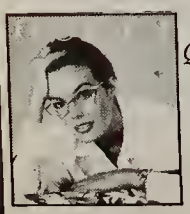

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UNIVERSITY of GUELPH

NEWS IN BRIEF

### EVENTS MARK BLACK HISTORY MONTH

A number of events are planned to mark Black History Month on campus. On Feb. 15, the Munford Centre hosts an all-day multimedia presentation on the Caribbean in the University Centre courtyard. On Feb. 16 in the courtyard, the focus is on Latin America with a presentation by the Latin Cultural Society. On Feb. 27, the Women's Resource Centre hosts a screening and discussion of the movie *Beloved* for black women at 5:30 p.m. in UC 107. Several events are planned for Feb. 28. At 12:30 p.m. in UC 107, Wesley Crichlow leads a discussion for black men on "Criminalizing the Black Man in Canada." Crichlow will also wrap up the week at 5:30 p.m. with a discussion of "Moving Beyond Survival: Grounding Our Lives in a Passion for Thriving." A concert will follow with guitarist Ignace Ntirushwamaboko. For locations of the final talk and concert, call the Central Student Association Human Rights Office at Ext. 2629.

### TOXICOLOGY STUDENTS HOST 15TH ANNUAL SYMPOSIUM

The Toxicology Students' Association presents "Genes Made to Order — A Symposium on Genetically Modified Foods" March 3. Discussion will focus on such issues as human and ecological risks, bioethics and allergenicity. Platform speakers include Conrad Brunk, chair of the Royal Society of Canada Expert Panel on the Future of Food Biotechnology; Jeff Wolt of Dow Agrosciences in Indianapolis; University of Western Ontario geneticist Joe Cummins; University of Alberta law professor Timothy Caulfield; and LaReesa Wolfenbarger of the U.S. Environmental Protection Agency. Cost of the symposium is $16 with lunch, $12 without. For more details, send e-mail to jdumanoi@uoguelph.ca or aakelait@uoguelph.ca.

### AUTHOR TO SPEAK

Canadian author John Ralston Saul will speak on campus Feb. 27, hosted by the Central Student Association as part of SPLASH (Students Participating, Learning, Acting, Sharing, Helping), a month of awareness activities intended to expose students, faculty and staff to a broad range of experiences that promote and enhance citizenship development. Saul will speak at 7 p.m. in War Memorial Hall.

### ALFRED HOSTS EDUCATION FAIR

Collège d'Alfred will launcb an education fair Feb. 15 aimed at promoting French-language post-secondary education to area students and showcasing the quality of available educational programs at colleges and universities. More than a dozen francophone post-secondary institutions will be represented at the fair. Running from 10 a.m. to 8 p.m., the event is free and open to the public.

# The Fine Art of Computers

*Students show off results of first-time computer graphics course*

Fourth-year fine art student Angela Hajdu, left, took advantage of the first computer graphics course offered by Prof. Jean Maddison to express her art in a new way. PHOTO BY MARTIN SCHWALBE

There's been another breakthrough in computer applications at U of G. And it has nothing to do with science, engineering or math. This time, the breakthrough is in the realm of artistic expression, as fine art students take advantage of courses offered for the first time in computer graphics.

Students who took the inaugural "Introduction to Computer Graphics" course in the fall semester proudly unveiled their resulting artwork in a recent week-long exhibition in the Zavitz art gallery.

The large prints that lined the gallery walls were the students' interpretations of Prof. Jean Maddison's assignment to take a street scene as a starting point and add images to create a seamless, fantastical, imaginary view. Some of the pieces contained as many as 100 layers of images, manipulated using PhotoShop software.

"It was an enormous amount of work," Maddison says. "The results are quite professional."

Fourth-year student Angela Hajdu's print incorporates images of sputnik-style spaceships and astronauts from the 1950s into a bleak street scene by Hungarian photographer Andre Kertesz. The repeated image of a ballerina perches on the cars that line the street.

"It's a comment on utopian ideas of the future . . . a wacky cityscape," says Hajdu, who was pursuing the space theme in her painting and sculpture prior to taking the computer course.

Also on display in the gallery were the results of another course requirement: Web sites created by the students using Dreamweaver software.

The exhibit was the first time that most of the students saw each other's work, after spending the fall semester hunkered down in front of computers in the library's Multimedia Lab. The images were printed out on a plotter in the Department of Environmental Biology's graphic arts shop, with the assistance of graphic artist Don Hamilton.

This semester, Maddison is teaching two sections of a second computer graphics course, "Drawing on the Computer," to a total of 40 students, including Hajdu. It introduces students to vector graphics and Adobe Illustrator software.

Maddison, who also co-ordinates printmaking for the fine art program, came to U of G from McMaster and York universities in 1997. She was hired for her traditional printmaking and computer graphics skills. It took her three years to get approval for the computer graphics courses, which are at the 200 level.

"This exhibition is a first for computer graphics, so it's historic," she says. "Fine art at Guelph would have found itself way behind other universities if these courses had not been introduced to the curriculum."

She sees the computer courses as an adjunct to printmaking and notes that students in advanced printmaking are using the technology as a starting point for silkscreen, etching and lithographs.

A third-year computer graphics course is expected to be offered in fall 2001, followed by a fourth-year course in winter 2002.

*BY STACEY CURRY GUNN*

## PEOPLE

### OVC PROF HONOURED FOR DISTINGUISHED SERVICE TO VETERINARY PROFESSION

Prof. John Baird, Department of Clinical Studies, has received an award for distinguished service to the veterinary profession from the Ontario Veterinary Medical Association (OVMA). A faculty member at Guelph since 1980, Baird is a large-animal specialist who works closely with cattle and horse associations to advise livestock producers about genetic problems and related issues. Last year during a sabbatical in Australia, he volunteered at the Sydney Olympics, serving as a member of the veterinary team as well as assisting the Canadian equestrian team. He is also past chair of show jumping for the National Canadian Pony Club. The OVMA recognition also cited Baird for his dedicated fund-raising for U of G's graduate faculty.

### STUDENT-ATHLETES NAMED CIAU ALL-CANADIANS

To date, 12 U of G student-athletes have been named CIAU All-Canadians for 2000/2001. They include seven members of the cross-country teams: MBA student Leslie Carson of Cambridge, third-year B.Sc. student Michaela McClure of Waterloo, third-year B.Sc. student Kristina Rody of Maryhill, third-year BLA student Steve Bendo of Elora, third-year B.Comm. student Reid Coolsaet of Hamilton, fourth-year B.Sc. student Drew Graham of Guelph and fourth-year B.Sc.(Agr.) student Chris McLaren of Drumbo. Also named All-Canadian are football Gryphon Jeremy Oxley, a fifth-year BA student from Brownsville; rugby Gryphons Christine Nahas, a fourth-year BA student from Mississauga and Lindsay Bernrot, a fourth-year B.Sc.(H.K.) student from Mississauga; and soccer Gryphons Christine Zimmermann, a third-year B.Sc.(H.K.) student from Dundas and Amber Gibson, a fourth-year BA student from Yarker.

# Internal Audit Renamed Audit Services

U of G's Internal Audit has a new name — Audit Services — as of Jan. 22. Newly appointed manager Kelly Bertrand says the new title better reflects what the unit is all about. "The new name is intended to signify that the unit is a service department that has a continued role as an active part of the University management team," he says.

The mandate of the unit, established in the mid-1970s, remains unchanged. It is to provide an independent assessment of the adequacy and effectiveness of financial and operations controls, and the extent of compliance with external regulations and internal policies and procedures.

But aside from the unit's traditional role of regularly reviewing campus departments and units, Bertrand would like people across campus to also view Audit Services as a place where they can turn to for information and advice.

"We encourage people to come to us with questions, concerns, ideas and proposals," he says. "In our work across campus, we've dealt with so many different situations and have seen what all the various departments are doing, so we have gained a lot of expertise. We're not necessarily the experts, but we see a lot and we know what works and what doesn't. We also know what resources are available across campus. If a department is making changes or reviewing procedures and is looking for assistance, we can help."

Bertrand would like to dispel the notion that Audit Services is "the money police or that we're out looking for fraud when we review a department. Fraud is actually a very small component of our job. We're only there to review performance and processes. We're not there to evaluate or judge individuals."

Audit Services takes a staggered approach to auditing campus departments, with highest priority going to units with the highest risk, complexity or change. This would include units that have recently restructured and those where a lot of money changes hands. Audit Services also maintains a continual audit, sampling financial information from across campus and reviewing it centrally.

In addition to Bertrand, a CGA and University of Windsor B.Comm. graduate who joined the unit in 1997 and was appointed manager in November, the Audit Services teams consists of assistant manager Tina Hammerschmidt and staff auditor Brenda Warner. Hammerschmidt, a CGA, graduated from McGill University with a B.Comm. and MBA. Warner, a CGA and CA, holds an MBA from Heriot-Watt University in Edinburgh. She replaces Franca Ciulla, who was seconded to the Budget Office for two years as of Sept 1, 2000.

As part of its effort to boost its profile on campus, Audit Services has launched a Web site at www.auditservices.uoguelph.ca. "At first, the site will be limited to basic information about the department and the staff and how to contact us," says Bertrand, "but there will also be direct links to all the University policies and procedures that are online."

INSIGHT

# WHAT ARE YOU OTHER TWO DOING?

*Student wonders why only one in three Canadians are active volunteers*

BY KATIE DICKIESON

IT'S FRIDAY AFTERNOON and I'm pecking away at the keyboard when one of my Lambton Hall friends flops down on my bed and asks what I'm working on.

"I'm writing a speech."

"Why?"

"Because I'm the guest speaker tonight at the Fergus Agricultural Society's annual meeting."

She looked at me like I came from Mars and wanted to know: "What is an agricultural society and why would you be talking to it?"

I'm from a rural community where the fall fair is one of the big events of the year, but here was a new friend from the city who had never been to a fall fair. She caught on quickly to the idea of a weekend event where farmers and gardeners, good cooks, crafty people of all kinds and schoolchildren enter things they've grown or made to compete for prizes. It took a little longer to explain why people would join an agricultural society — because they think it's important to showcase rural life, educate non-farmers about agriculture and build community spirit in the rural towns where they meet.

"What's the speech about?" my friend asked.

"Volunteerism."

"So what makes you an authority on that?"

Now I had to rethink my whole speech.

When the Fergus society's president called and asked me to speak at the meeting and suggested volunteerism would be a good topic, it never occurred to me to say no. But now my Lambton friend had me asking: "What do I know about volunteering that these Fergus Fall Fair veterans haven't figured out years ago?"

I started to brainstorm and realized that I actually know a lot about volunteering because I know a lot of volunteers. Nearly all my friends and family volunteer in some way, and all the organizations I turn to for support, entertainment and recreation are built on the dedication of volunteers.

While I was learning to balance on skates at the Palmerston arena, my mother was balancing the books for the skating club and my Dad was balancing on a ladder to set up lights for the annual skating carnival. When I showed my lamb at the Harriston or Arthur fall fair, my 4-H leader was there with a few other farmers who were either organizing the event, judging the lambs or handing out the prizes. And I spent a whole year making new friends — more than 1,000 of them — who were willing to work for free so that Wellington County could host the 2000 International Plowing Match (IPM) last September.

Even at U of G, I'm hanging out with volunteers. Did you know that the Junior Farmers Club on campus collected 2,000 cans of food last year for the Guelph Food Bank, and that its members regularly visit local seniors' homes to play cards and entertain the residents? Naturally, I signed up to help with College Royal; it takes a lot of student power to organize and host the annual open house.

When I was younger, I was on the receiving end of community projects like these and probably took them for granted. But now that I'm taking a bigger role in the giving side of volunteerism, I'm amazed at just how much a group of people can achieve and how hard they're willing to work to make their project a success.

ILLUSTRATION BY ANTONIO CANGEMI

Think about the IPM and its 1,000 volunteers. Think about College Royal. I can't imagine being a student or working at the University of Guelph and never participating in this fun event. Think about the United Way campaign. In Guelph-Wellington alone, it raised more than $2 million last year. Think about the Canadian Food Grains Bank, Habitat for Humanity and the Olympics. Aren't you just amazed by the size and success of events and charitable projects like these that depend almost entirely on volunteers?

And that's just the small stuff. Because I couldn't say no to my friends in Fergus, I found out that the United Nations has declared this the International Year of Volunteers. It's humbling to visit the UN volunteer Web site and see what a difference volunteers make in virtually every corner of the globe. They're helping to supply the basics like food, clothing, housing and medical care as well as luxuries like fall fairs and skating clubs. Money may make the world go round, but working without pay for the well-being of your neighbours is surely the spirit that connects us to one another.

Canadian volunteers have their own Web site devoted to celebrating this international year and the "achievements of Canada's everyday heroes." Someone has counted 7.5 million people in Canada who volunteer more than a billion hours of time each year. That sounds pretty impressive until you realize it represents only one in three Canadians. What are you other two guys doing?

It's hard for me to believe that the two people sitting in front of me in class were raised in non-volunteer households, or that most of my professors and TAs don't drive cancer patients, clean up roadside garbage or sell hot dogs to support some kind of community project.

Maybe they just haven't been asked. In the vast pool of potential volunteers, there aren't many mind readers, but there are a lot of people who have trouble saying no. They certainly knew that in Fergus. And I know that one volunteering experience usually leads to more. It's fun to get together with a bunch of friends and do something that really matters to the people in your community. It's nice to be on the receiving end of "thank you" once in a while, and there isn't a better way to feel like you really belong to a neighbourhood . . . or a university.

Volunteering is working without earning a wage, but it sure pays well. I read a survey recently that said most people volunteer because they want to be helpful, but those people also say they receive a lot of personal benefits from volunteering — interpersonal skills, organizational and managerial skills and communication skills like public speaking.

As a U of G co-op student who will soon be competing for job placements, I am realizing the value of volunteering in the eyes of employers and admission counsellors. For Ontario high school students, volunteering is now a prerequisite for graduation, and applicants to some university and professional programs are at a disadvantage if they don't have volunteer experience. Volunteering is obviously a give-and-take experience.

Many of the organizations I've been involved with wouldn't even exist if they hadn't been started by volunteers. What, no fall fairs, no 4-H clubs, no skating or baseball teams? In the grander scheme, no volunteers would also mean no school breakfast programs, no one to find warm beds for the homeless, no one to send teaching missionaries overseas.

The contributions volunteers make are endless. Just think of the many ways volunteers have influenced your own life. The International Year of the Volunteer is a great time to move from the receiving to the giving side of volunteering, so why not make it a point to ask people what kind of volunteering experiences they have. You'll either get the chance to say "thank you" to someone who is really making things better in our society or you'll get the chance to recruit a new volunteer to help in your favourite project. Either way, we all win.

Katie Dickieson is a first-year student in U of G's food science co-op program and a seasoned volunteer with her local agricultural society and the Ontario Plowmen's Association.

# First-Year Students Introduced to Volunteering

*Guelph students are welcomed and appreciated by local agencies, and more and more students every year are asking to get involved in volunteering*

At noon on Feb. 28, the volunteer advocates who work in Raithby House will place a cedar garden bench on the porch and a plaque to commemorate the International Year of the Volunteer.

"We want to recognize all the Guelph students who volunteer, both on campus and in the greater community," says Cheryl Rose, coordinator of a campus-based citizenship education program.

Much of her time is spent introducing first-year students to the idea of volunteering and helping them make connections with agencies and groups that need their help. They begin in September, with a one-day service event that sends new students out into the community to spend their Saturday with up to 25 different organizations. Last fall, students worked at the Food Bank and the Humane Society, painted a room at a women's shelter, got dirty in environmental clean-up projects, did some gardening with residents of a community mental-health clinic and helped with several fund-raising projects.

Guelph students are welcomed and appreciated by local agencies, and more and more students every year are asking to get involved in volunteering, says Rose, who helps coordinate service programs through Volunteer Connections and the Community Involvement Centre. These offices put students in touch with community groups and campus organizations that need help.

"Student groups recognize that working together on a community service project can build team spirit and co-operation," she says, "and a learning component built into a volunteer project can encourage students to thoughtfully consider making community involvement more a part of their lives."

The citizenship program also seeks out faculty and staff to work with student volunteers. "It makes a big difference to students to see that kind of involvement from their professors," says Rose, "and it helps to demonstrate that we recognize the tremendous contributions of student volunteers who are making life better for people in need."

PROFILE

# AN ORIGINAL TINKERER

*U of G technician's eclectic hobbies spawn a Web site that's popular around the world*

BY STACEY CURRY GUNN

TUCKED AWAY in the back of the electronics workshop in the basement of the MacNaughton Building is the small, tidy office of a man who may have the largest international following of anyone at U of G.

During the workday, Tony van Roon maintains computers, scientific instruments and other equipment for the departments of Computing and Information Science and Chemistry and Biochemistry. After hours, it's time for his many hobbies and the popular Web site they've spawned, which has earned him a worldwide reputation among electronics aficionados.

Van Roon is the man behind "Tony's Web Site" — far and away the single most sought-out site on U of G's main computer server. All University employees are permitted to have their own Web site, and van Roon has had his up and running since 1995. During a week in early February, it logged 70,844 hits, compared with U of G's home page, which had 125,843.

PHOTO BY DEAN PALMER/THE SCENARIO

Visitors to van Roon's Web site at www.uoguelph.ca/antoon find an eclectic collection of subjects, most of which are related to his lifelong passion for electronics.

Tony's Web Site is a resource for hobbyists who download projects ranging from basic battery chargers and alarm systems to doorbell ringers that sound like birdsong. It's also a resource for radio control enthusiasts looking for plans for electronic gadgets, tips and links to other radio control Web sites.

In addition, the site provides links to the Royal City Metal Detecting Club (van Roon is the club secretary-treasurer) and other "cool" sites ranging from NASA to the National Football League. Incongruously, he has also included his own recipes for bread, pastry, sauces and stews and desserts.

"I have too many hobbies," he says. "It's hectic sometimes, but I don't know any better. It's part of my life."

Van Roon inherited his love of all things electronic from his father, Henk, who built and maintained radio equipment for the Resistance in the Netherlands during the Second World War. Born after the end of the war, Tony van Roon was fascinated by his father's tinkering with electronics equipment, which, in those days, was tube-based. "I would always watch and try to help him."

His first electronics project was a "Cat's Whiskers" AM radio headset made with a razor blade. He fiddled with electric motors throughout his teens, but put his burgeoning interest aside for a time to become a merchant sailor at age 17.

"I was very wild and wanted adventure," he says. "I wanted to see something of the world on the cheap."

A few years later, he returned to the Netherlands to work in the electronics industry, married his wife, Hilda, and had two children, Michael and Wendy. In 1980, he moved his family to Canada in search of new opportunities and, after two years with Control Data Canada in Mississauga, came to work at U of G.

Over the years, his affinity for tinkering with electronics grew. "My friends are all in electronics, and we used to sit around a table in somebody's home and play with integrated circuits and try to design stuff. We'd take an existing circuit and modify it to make something else."

His propensity for such projects led van Roon to build his first metal-detecting device in the mid-1970s, and he soon became hooked on treasure hunting. He spends a few hours each week in the summer on that hobby, combing Riverside Park in Guelph as well as making forays to Grand Bend, Sauble Beach and old properties he's researched. He nets a few hundred dollars every year from the loose change he picks up, with his best individual finds being a quarter-carat diamond ring, a 1943 silver piece and a half-cent from 1916.

"It's kind of fun, you're outdoors in the park and you meet people who are curious," he says. "Children ask me if they can try it out. If they find something, I let them keep it and they're thrilled."

Radio control devices, particularly helicopters and boats, also captured van Roon's interest years ago. Tony's Web Site covers all aspects of the hobby from cars to rockets and boasts that it's the "largest and most comprehensive index of radio control model Web sites in the world." A member of the Guelph Gremlins Radio Control Club, he is currently researching and designing flapping wing aircraft, known as ornithopters.

But van Roon stresses that he's a tinkerer, not an inventor. "The difference, I think, is that an inventor invents new stuff, and a tinkerer is somebody who likes to take things apart, figure them out and try to repair the impossible. My family says if I can't fix it, nobody can."

Van Roon also has a remarkable drive and ability to explain how things work. Tutorials on his Web site, which took him months to create, provide pages of detailed information and diagrams about two basic electronic devices, a timer and an operational amplifier. They are now used, with his permission, as part of the curriculum in electronics programs at a number of American colleges and one in Toronto. A third tutorial for a phase lock loop — a device used for tone-decoding, frequency synthesis and AM/FM signal demodulation — is in the works.

Although Tony's Web Site is a labour of love that van Roon offers free to the world, the site also advertises his small business, Meridian Electronics. He set up the enterprise to deal with the many requests he gets to fabricate and design projects and to install things like alarm systems. "It's growing slowly," he says. "I'm so busy, I don't have much time for it."

The correspondence generated by his Web site is another thing that keeps him busy. Every single day, van Roon gets a couple of dozen e-mails from people all over the world. The notes range from thank yous for the information and projects on his site to requests for help in designing circuits.

He attributes the popularity of the Web site to its simple format. "I know there are sites full of animation and banners, but it delays the loading of pages. I like to keep my pages uncluttered and very simple, so they load fast."

So where do cooking and baking fit in? Van Roon says it's another skill learned from his father, who regularly helped with the baking for a large restaurant owned by a family friend.

"Every weekend, I bake two loaves of brown bread and four white, plus raisin bread," he says, adding that he also regularly turns out pastries, cakes and other Dutch specialties.

And, as you may have guessed, he's quite the handyman around the house in other ways as well — plumbing, woodworking, winemaking, you name it. "There's not much I can't do," he grins.

What's next? Van Roon got his motorcycle licence in September and plans to buy a bike this spring. And he's contemplating writing science fiction, mentally mapping out the plot of his first novel. "It's going to be big . . . . I can see the scenes unfolding in my head. Maybe it's all the tinkering I do."

# Fisheries, Aquatic Sciences Journal Turns 100

*Guelph-based journal now ranked second in world by Institute for Scientific Information*

THE INTERNATIONALLY acclaimed *Canadian Journal of Fisheries and Aquatic Sciences* (*CJFAS*), edited at U of G, celebrates its 100th anniversary this year.

It's been almost four years since the National Research Council awarded the monthly journal to Guelph in recognition of the University's strengths in aquatic sciences and fisheries. In that time, the journal's editors, Profs. John Roff and Moira Ferguson, Zoology, have seen the already prestigious publication rise even higher in the estimation of the scientific community.

The Philadelphia-based Institute for Scientific Information (the world measure of academic journals and their impact on their field) now ranks *CJFAS* second only to the heavily cited British publication *Reviews in Fish Biology and Fisheries*. It was ranked third when Roff and Ferguson took over the editing helm in June 1997.

"*CJFAS* is a truly international journal," says Roff. "We have contributors and readers in every country in the world."

The journal is an important forum for several U of G faculty and their graduate students, as well as the editors themselves. Although it provides U of G researchers with valuable international exposure, Roff says their inclusion is based strictly on merit. "We have to be as tough on ourselves as anybody else. It's peer reviewed, and we're just as likely to be rejected or accepted as anybody else. We can't play favourites."

Analysis of the proportion of papers devoted to either fish or aquatic sciences shows that the two fields are about equally represented. Over the last few years, Roff has seen a trend away from focusing on single species management to a more integrated approach to water quality and water management studies. "There's a general trend towards a wider ecosystem view, to seeing fish as part of the overall aquatic habitat," he says.

*CJFAS* was first published as *Contributions to Canadian Biology* at the turn of the 20th century, with a multi-year volume spanning 1901 to 1905. The contents of the first volume indicated the current scope of disciplines, with "reports on fisheries, effects of pollutants on fish and studies on benthos and plankton," write Roff and Ferguson in the 100th-anniversary issue. In 1934, the name changed to *Journal of the Biological Board of Canada*, published every two years. In 1938, the title was changed for a third time to *Journal of the Fisheries Research Board of Canada*, then to its current name in 1980. The journal publishes more than 600 submissions a year and has over 1,900 subscribers.

*BY STACEY CURRY GUNN*

# Rutgers Partnership Will Open U.S. Market

*Continued from page 1*

but until now, had not delivered any of its courses via the distance route. He adds that it would take four years or more to begin a program from scratch, so partnering with U of G allows Rutgers to launch a program expeditiously, based on Guelph's reputation in the subject areas, as well as in distributed learning.

According to Culp, e-course development could be quicker if one were willing to take shortcuts. "But that's not our way," he says. "We have a strong commitment to quality, which takes time for curriculum development using new technologies. The courses we'll be offering to Rutgers were developed over years. They reflect the contributions of faculty in horticultural science, environmental biology and landscape architecture in developing the material, as well as IS/*@access*'s editorial group, program co-ordinators, and multimedia and videography professionals. To do it right, you have to do it thoroughly."

The partnership with Rutgers is just one initiative under way at IS/@access, which is capitalizing on the Internet and new technologies to revolutionize learning. As of January, seven e-courses are available via the Web: "The Horticulturist" (a three-course certificate program), "Elements of Garden Design," "Tree Ecology in the Human Environment," "Starting a Green Business" and "Woody Plants: Their Identification and Use." Another 10 courses are in the works for an e-diploma program slated for a July 1 launch. The e-courses combine Internet and CD-ROM technology to offer full-motion video and online resource links available on the Web, as well as on-screen text, illustrations and graphics.

Elsewhere, Culp's team entered into an agreement last summer with the Golf Management Institute of Canada (GMIC) to begin work on a joint U of G/GMIC post-diploma certificate program for golf managers needing further business management training. Two courses are already up and running and accepting applicants. In total, 10 courses will form the basis of the program, with the curriculum being developed by industry experts overseen by the GMIC.

"Partnerships with organizations that share a similar vision and commitment are the future of our learning business," says Culp.

More on what's happening at IS/@access can be found on the Web site www.uoguelph.ca/istudy.

*BY ALEXANDER WOOLEY*

## Correction

The Jan. 31 *@Guelph* news item about the latest U of G recipients of fellowships from the Social Sciences and Humanities Research Council of Canada contained incorrect information.

Fellowship recipient Robin Milhausen, an M.Sc. graduate of the Department of Family Relations and Applied Nutrition, is currently enrolled in a PhD program in the School of Health, Physical Education and Recreation at Indiana University.


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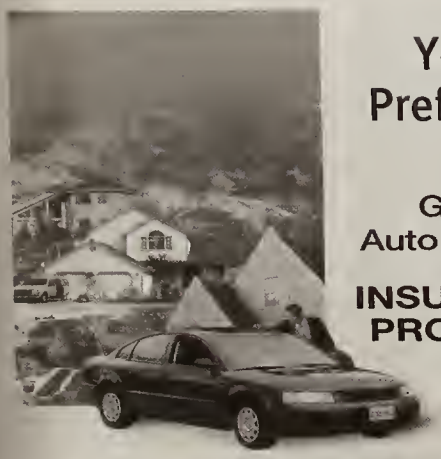

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# CLASSIFIEDS

## FOR SALE

Brick bungalow in University area, three or four bedrooms, two bathrooms, main-floor family room with heated Florida room attached, finished basement with heated workshop, two wood stoves, carport, many upgrades, move-in condition, no agents, 822-3177.

Kenmore heavy-duty washer and dryer, Frigidaire gas range, water softener, 824-1908.

Entomology cabinet, 36 glassed drawers, 5'10" high, 3'3" wide and 23" deep, 821-5813.

1995 Mongoose Expert Pro BMX bicycle, chromoly frame, Shimano cantilever brakes, Araya aluminum rims and beefy tires for supreme dirt traction, includes bomber racing pads, send e-mail to tandem_one@hotmail.com.

Rival automatic rice cooker/steamer, never used, still in box, Ext. 6580.

1989 Ford Probe, five-speed, air conditioning, cruise, power mirrors and tilt, cassette, clean, excellent condition, certified, call Denis after 7 p.m. at 836-1712.

Three-bedroom country home on one acre near Elora, two baths, office, in-ground pool and spa, cathedral ceilings, many extras, 846-9244.

Crib/junior daybed, five-drawer change table, seven-drawer armoire, white with brass trim, meets government regulations, excellent condition, Stan, Ext. 8981 or 824-6799.

Three-bedroom, 1,893-square-foot house, cathedral ceilings, open concept, main-floor laundry, two-car garage, large backyard, deck, 837-3726 or m_rogers@sentex.net.

## FOR RENT

Three-bedroom townhouse on College Avenue for one year beginning May 1, three bathrooms, central air, fireplace, garage, finished basement, swimming pool in complex, looking for responsible, quiet tenants, $1,200 a month plus utilities, send e-mail to ruthie007_@hotmail.com.

Furnished bedroom in two-bedroom condo in Grange/Starwood area, close to bus, parking extra, laundry, non-smokers, no pets, $350 a month inclusive, 829-4119.

Two young professionals seeking unfurnished two-bedroom apartment in south end for April 1, must have laundry and parking for one car, send e-mail to t.signorelli@utoronto.ca or leave message at 416-588-1203.

Two bedrooms in shared house in York and Victoria area, nice bright rooms with parking and laundry available, small pets allowed, non-smokers, mature grad students preferred, $350 plus utilities, leave message for Erica at 827-9628.

Older four-bedroom house on King Street, available September to December 2001, close to river and park, half-hour walk or 10-minute bus to University, three bathrooms, modern kitchen, den/office, finished walk-in basement with office, low-maintenance gardens, deck, wooded back garden and arbour/carport, non-smoking, with friendly family cat, $1,500 a month plus utilities, 767-1333 after 7:30 p.m.

First-floor non-smoker furnished bachelor apartment on Dublin Street, available March 1 to May 31, 2001, perfect for temporary students or visiting scholars/ faculty, parking available, no laundry, $550 a month, including utilities, 827-0748 or ahuennem@uoguelph.ca.

Upscale two-bedroom condo available for short-term or long-term accommodation, fully furnished, centrally located, parking, ensuite laundry, Jacuzzi, available March 15, $1,400 a month including utilities, Carol, 823-1857, 362-1857 or cmthompson52@hotmail.com.

## WANTED

One- or two-bedroom apartment for professional couple beginning May 1, prefer quiet country setting, parking required, Ext. 3541.

Extra single tickets to Feb. 22 10 a.m. convocation ceremony, Sam, Ext. 2542 or ssulli01@uoguelph.ca.

Ticket for Feb. 21 10 a.m. convocation ceremony, Corrie, 821-7792 or corriegriffiths@home.com.

Used typewriter, coat rack and chairs for graduate students' office, send e-mail to mcamer01@uoguelph.ca.

Classifieds is a free service available to staff, faculty, students, alumni and retirees of the University. Send items to Linda Graham on Level 4 of the UC, fax to 824-7962 or send e-mail to lgraham@exec.admin.uoguelph.ca.


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# EVENTS

## ARBORETUM

The Arboretum presents "Nature Speakers: Arboreal Reflections, Folk Tales, Legends and Myths," a new program designed to explore and illuminate nature, Feb. 25 from 2 to 4:30 p.m. Program leaders are local storyteller Ann Estill and Paul Aird, author of *Loon Laughter: Ecological Fables and Nature Tales.* Advance tickets are $7 for adults, $5 for students aged 10 and up. Cost at the door is $10 and $8.

A pancake breakfast will be held March 3 from 9:30 to 11:30 a.m. at the Arboretum Centre.

Horticulturist Henry Kock presents a half-day workshop on "The Art and Practice of Pruning" March 6 and March 8 from 1 to 4 p.m. Cost is $25. Registration and payment are required by Feb. 27. On March 9, Kock leads a workshop on "Hobby Grafting" from 1 to 4 p.m. Cost is $28. Registration and payment are required by March 1. To register, call Ext. 4110.

Theatre in the Trees presents the dinner-theatre comedy *Something for Charlie* by Neville Bryant Saturdays until April 28. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are $49 and are available at Ext. 4110.

The Arboretum presents "Signs, Tracks and Finds," a hands-on workshop for the whole family March 10 from 1 to 4 p.m. Participants will learn common animal tracks and signs and develop an eye for spotting and identifying animals and their activities by the things they leave behind. Led by archeologist Larry Drew, the workshop costs $18 for adults, $9 for children or $40 for a family of four. Registration and payment are required by Feb. 23.

Naturalist Chris Earley and horticulturist Henry Kock lead the workshop "A Life Zone Approach to Naturalization" March 13 from 9 a.m. to 4 p.m. Cost is $65. Registration and payment are required by Feb. 27.

## ART CENTRE

The Macdonald Stewart Art Centre exhibition "Leon Golub, While the Crime Is Blazing: Paintings and Drawings, 1994 to 1999" opens March 1 with a discussion between artist Leon Golub and exhibition curator Stuart Horodner at 7 p.m. at War Memorial Hall. The exhibition opening follows at the art centre. On March 2, the centre hosts a breakfast with Golub at 10 a.m.

## ATHLETICS

The basketball Gryphons are at home to Waterloo Feb. 17, with the women's team playing at noon and the men's at 2 p.m.

The men's hockey Gryphons host Ryerson Feb. 17 at 7:30 p.m.

The CIAU swimming championships run at U of G Feb. 23 to 25.

Guelph hosts the OUA women's figure skating championships Feb. 23 and 24 beginning at 7 a.m.

## CONCERTS

The Thursday noon-hour concert series continues Feb. 15 with classical guitarist Pierre Beaudray performing works by Villa Lobos and Bach and March 1 with Javanese Pesindhen performing traditional Gamelan songs and presenting puppets from the ancient shadow puppet theatre of Java. The concerts are held in MacKinnon 107. Admission is free, but donations are welcome.

The U of G Chamber Singers, conducted by Marta McCarthy, perform Canadian works by Willan, Daley and Evans and music from the Renaissance to gospel March 9 at 8 p.m. at Westwood United Church, 577 Willow Rd. The concert will also feature guests from the U of G Symphonic Choir. Tickets are $8 and are available in Room 210 of the MacKinnon Building or at the door.

## FORUM

The School of Languages and Literatures presents Prof. Frédérique Arroyas discussing "Reflections on Music and Gender in Nancy Huston's *Instruments of Darkness* March 1 at 4 p.m. at the University Club.

## LECTURES

The Guelph-Waterloo Physics Institute will host two speakers as part of its distinguished lecturer series. On Feb. 27, Gerardus 't Hooft of the University of Utrecht will speak at 4 p.m. in MacNaughton 113. His topic is "From Subatomic Particle Physics to the Gravitational Force — a Path Through the Desert." On March 1, Robert Birgeneau, president of the University of Toronto, will discuss "Stars, Stripes and High-Temperature Superconductors" at 3:30 p.m. in Physics 145 on the Waterloo campus.

The winter session of Third Age Learning-Guelph's lecture series for retired people has space in its afternoon program, which next features Prof. Paul Hebert, Zoology, discussing "Polar Science and Southern Society" Feb. 28 at 1:30 p.m. at the Arboretum Centre.

## NOTICES

The Program for North American Mobility in Higher Education, a cooperative partnership among the governments of Canada, the United States and Mexico, supports the development of international joint projects among universities, colleges and technical institutions in the three countries. A new competition has been announced with federal support of $160,000 per project over four years for the Canadian partner institutions. Application deadline is April 30. Guidelines and application forms will be available Feb. 15 on the Web at www.canlearn.ca/iam. Information is also available from Human Resources Development Canada at 819-953-3857 or elizabeth.leiva@hrdc-drhc.gc.ca.

The 2001 Ontario Ecology and Ethology Conference, to be held May 2 to 4 on campus, is calling for abstracts by March 16. Guidelines are available on the Web at www.uoguelph.ca/CBS/oeec.index or by e-mail at jaholmes@uoguelph.ca.

The Inter-American Institute for Co-operation on Agriculture (IICA) is offering at least 20 research grants to Canadian students and professionals in agricultural sciences for 2001, as well as five or more awards for young Canadians to spend up to four months in IICA headquarters and its network, and at least eight awards for Canadian graduate students to spend up to two months in Latin America or the Caribbean. Details are available at the Centre for International Program's InfoCentre or on the Web at www.iicacan.org.

The *Ontarion* student newspaper is calling for applications for the position of editor-in-chief for the 2001/2002 production year. For a full job description, call Ext. 8265 or visit the *Ontarion* office in UC 264. Application deadline is Feb. 16.

The Stress Management and High Performance Clinic is offering a four-session program on managing headaches beginning Feb. 28 and running Tuesdays at 7:30 p.m. in UC 390. Cost is $20 for U of G students, $60 for others. For more details, visit the Web site www.uoguelph.ca/~ksomers or leave at message at Ext. 2662.

The Department of Food Science, the Office of Open Learning and the Guelph Food Technology Centre present a course on cheesemaking technology April 23 to 27 at U of G. Lead instructor is Prof. Art Hill, Food Science. For information, call 767-5000 or visit the Web site www.open.uoguelph.ca.

U of G's Nordic ski team is looking for a volunteer coach to help with all aspects of the team for the 2001/2002 season. For more information, visit the team's Web site at www.uoguelph.ca/ugnordic or send e-mail to phook@uoguelph.ca.

## SEMINARS

The Department of Microbiology graduate seminar series presents Cory Wenzel explaining "*Pseudomonas aeruginosa* Lipopolysaccharides and the Enzymes Involved in O-Antigen Biosynthesis" Feb. 16 at noon in Food Science 128.

The Department of Mathematics and Statistics seminar series features Prof. Bill Langford discussing "From Arnold's Normal Form to Nayfeh's Abnormal Resonance" Feb. 16 at 2:30 p.m. in MacNaughton 121.

"Sex, Power and Resources: A Behavioural Ecologist Looks at Humans" is the topic of Bobbi Low of the University of Michigan Feb. 16 in the Department of Zoology seminar series. On Feb. 28, the topic is "Protected Areas as Biodiversity Baselines: Long-Term Dynamics and Biodiversity in the Serengeti" with Tony Sinclair of the University of British Columbia. The seminars begin at 3 p.m. in Axelrod 265A.

The Axelrod Institute of Ichthyology's "Loaves and Fishes" series continues Feb. 20 with University professor emeritus Eugene Balon, Zoology, explaining "Extreme Encounters and Their Significance for Science." On Feb. 27, the topic is "Copper Homeostasis in Teleost Fish" with Martin Grosell of McMaster University. The seminars begin at 12:30 p.m. in Axelrod 168.

The departments of Consumer Studies and Family Relations and Applied Nutrition host Louise Dibsdall of the Institute for Food Research in Norwich, England, who discusses "Attitudes Towards Diet and Cancer in a Low-Income Group in the United Kingdom" Feb. 28 at 2:30 p.m. in HAFA 129. For more information, call Prof. Karen Finlay at Ext. 3347 or Prof. Judy Sheeshka at Ext. 4479.

Next up in the biochemistry seminar series is Prof. Robert Mullen, Botany, discussing "Sorting Membrane Proteins to the Peroxisome: Role of the ER in Peroxisome Biogenesis" March 1 at noon in MacNaughton 222.

## TEACHING SUPPORT

Teaching Support Services is offering a WebCT winter institute Feb. 19 to 23 for instructors who are currently using or developing WebCT-based courseware. Formal sessions will be followed by open laboratory times where individual help will be available for those working on specific course-development projects. Register via the TSS Web site at www.tss.uoguelph.ca. For information, contact Mary Nairn at Ext. 3571 or mnairn@uoguelph.ca.

TSS's winter series of training and development opportunities for faculty and teaching staff continues Feb. 15 with "HTML II: Looking Under the Hood" and March 6 with "HTML IV: Digital Imaging." Register on the Web at www.tss.uoguelph.ca.

## COMMUNITY EVENTS

The Waterloo-Wellington Wildflower Society meets Feb. 21 at 7:30 p.m. at the Arboretum Centre. Prof. Glen Lumis, Plant Agriculture, will discuss "Landscaping With Native Trees."

The British Methodist Episcopal Church at 83 Essex St. celebrates Black History Month Feb. 25 at 1:30 p.m. Everyone is welcome. For more information, call 763-7137.

Opening at the Guelph Civic Museum Feb. 16 is "The Avro Arrow: A Dream Denied," featuring rarely seen artifacts, photos and documents.

The Guelph Spring Festival hosts its annual Wine Gala Fund-Raiser and Auction Feb. 24 from 6 to 11 p.m. at the Cutten Club. For ticket information, call 821-3210.

The Guelph Chamber Choir hosts a *Sound of Music* Singalong Feb. 24 at 7:30 p.m. at Creelman Hall. For ticket information, call 763-3000.

Guelph Museums is offering a March Break program for children March 12 to 16 from 9:15 to 11:45 a.m. Cost is $10 per child per session. For more information, call 836-1221.


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7 **ENVIRONMENTAL** biology professor lives in two different worlds.

9 **RED** wolf to benefit from study of canine cousin.

9 **MOTIVE,** consent key to successful step-parent adoptions.

**CON'GRAD'ULATIONS!**

New CBS alumni Rachel Bannister, left, Adele Cooper, centre, and Sarah Greensmith were among the 650 graduating students honoured during winter convocation last week. The University also presented honorary degrees to scientists Louis Siminovitch and George Ewan and to Peggy Knapp, known internationally for her work with rural women and families. Retired fine art professor Margaret Priest was named University professor emerita. See page 6 for more convocation coverage. PHOTO BY MARTIN SCHWALBE

# Guelph Receives $4.56 Million in Accessibility Funds

*Support will help address 'extraordinary challenges'*

THE MINISTRY of Training, Colleges and Universities (MTCU) has awarded U of G $4.56 million in accessibility funding for the 2000/01 fiscal year in recognition of the University's increase in enrolment.

Guelph received the most funding of the nine Ontario universities that shared in the province's $16.5-million Accessibility Fund, which was designed to address the growing demand for admission to university programs. To be eligible, universities were required to increase or match their fall 1999 first-year admissions in fall 2000.

"This funding is welcome news for U of G, and we are thankful for it," said president Mordechai Rozanski. "It will help us address the extraordinary challenges we face in this year's budget related to enrolment growth. This funding will help cover the costs we have already incurred for teaching, classroom improvements, increased student assistance and other student services that contribute to our quality learning experience."

Brenda Elliott, minister of intergovernmental affairs and MPP for Guelph-Wellington, was at U of G Feb. 16 to announce the accessibility funding on behalf of MTCU minister Dianne Cunningham. The other universities that received a portion of the accessibility funding are Brock, Algoma, Hearst, McMaster, Ottawa, Queen's, Wilfrid Laurier and Ryerson.

Elliott said the initiative is one component of the government's plan to prepare universities and colleges to meet the anticipated increase in enrolment due to the implementation of the province's new high school program.

"The Ontario government will continue to work with universities and colleges on new initiatives to support growth in the post-secondary sector," she pledged.

Over the next decade, an additional 90,000 students are likely to be seeking admission to Ontario universities. As soon as 2003, there will be 33,500 new students eligible for university admission province-wide, in addition to the usual first-year intake of 50,000 students.

Rozanski stressed that stable multi-year operating funding is essential to support growth and the quality education that students demand.

"What is needed is an investment by government in university operations to meet enrolment demand, to hire and retain faculty and staff, and to ensure that students are offered the highest-quality learning experiences and that the University's physical infrastructure is sound."

He said the accessibility funding is one bright spot in an otherwise overextended budget for this fiscal year. The 2000/01 budget must not only meet the costs of increased enrolment but also the soaring cost of natural gas, which will potentially add as much as $3 million beyond budgeted utilities to this year's operating expenses, he said.

*BY STACEY CURRY GUNN*

# Open House 'A Royal Affair'

*College Royal 2001 to draw 20,000 to campus*

U OF G STUDENTS will host the 77th annual College Royal open house weekend March 17 and 18, with events running from 9 a.m. to 8 p.m. Saturday and 8:30 a.m. to 3 p.m. Sunday.

This year's theme is "A Royal Affair," and attractions include a lecture series profiling the diverse ideas and research at U of G, the traditional dog and cat shows and livestock competitions, a photography contest, square dancing, a logging competition, a tug-of-war, magic shows, teddy bear and live animal surgery, walking tours and numerous displays.

College Royal is the largest student-run open house at any Canadian university. Begun in 1925 as a livestock-showing competition and instruction session, it now attracts more than 20,000 visitors to campus and involves some 3,000 volunteers.

A complete listing of College Royal events will soon be available on the Web at www.collegeroyal.uoguelph.ca. Programs will also be available at the College Royal office in Room 537 of the University Centre and during the event. For more information, call Ext. 8366.

# Campus Researchers Get Major New Federal Support to Study Greenhouse Gases

*Fifteen projects nationwide receive funding in first round of new initiative*

TWO U OF G researchers are among only 15 nationwide to receive first-round funding from a new federal initiative to study clean air and climate change.

Profs. Claudia Wagner-Riddle and Jon Warland, Land Resource Science, were awarded more than $350,000 to study agriculturally produced greenhouse gases. The funding announcement was made by Gordon McBean, chair of the board of trustees of the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS), at a reception at York University Feb. 15.

"It's a challenge to obtain industry participation in atmospheric science research, so this government funding is most welcome," says Wagner-Riddle, who will receive $240,000 over three years.

"It will be put to use investigating the causes and effects of greenhouse gases and best practices for soil management. We will eventually be able to share the outcomes of this research with farmers."

Wagner-Riddle is conducting a field and modelling study of nitrous oxide emissions from agricultural soil. Nitrous oxide is an important greenhouse gas, more potent than carbon dioxide. Nitrous oxide emissions may counteract carbon sequestration by soils. Wagner-Riddle, working with the Ontario Ministry of Agriculture, Food and Rural Affairs and the federal Climate Change Funding Initiative for Agriculture, has been researching the interrelationship of nitrous oxide and management practices through a three-year project at Elora.

The new CFCAS funding will permit enhanced testing and modelling of nitrous oxide emission by soils through additional monitoring of meteorological, soil and surface variables. Her colleagues in this project, all from the Department of Land Resource Science, are Profs. Bev Kay, Paul Voroney and Gary Parkin.

Warland's research examines how trace gases such as carbon dioxide, ozone and methane are absorbed and emitted by forests and vegetated farmland. With experiments planned in an Ontario forest and at U of G's Elora research station, he is developing new techniques to measure the exchange of these gases within the plant canopy.

"So much is still unknown about climate change, what its effects will be on agriculture, that we need time and support just to be able to ask the right questions," he says. "The CFCAS funding is crucial to do this sort of curiosity-driven research."

Warland will receive $110,700 over three years. "Among other things, the CFCAS funding will support graduate student assistantships to carry out the data collection and field research for this project," he says.

Last month, he received $72,605 from the Canada Foundation for In-

*Continued on page 10*

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# SENATE REPORT

## SCUP Brings Forward Recommendation on Tuition Fees

ONTARIO UNIVERSITIES and the Ministry of Training, Colleges and Universities have made progress on general guidelines for possible new funds for university enrolment growth, president Mordechai Rozanski informed Senate at its Feb. 13 meeting. The key issue now is how much funding universities will receive to meet the expected enrolment demand, a matter yet to be resolved.

U of G is facing other funding challenges as well, Rozanski said. The cost of utilities has risen by nearly 30 per cent in the current year. Guelph may also have to wait until the province brings down its own budget in early May before finalizing the University's budget for 2001/02. For this reason, the Senate Committee on University Planning (SCUP) decided to separate the tuition fee issue from the operating budget and bring a recommendation forward to Senate for information at this point. The president said this will enable students to plan effectively for next year, even if the University cur-

Planning efforts in the area of facilities, however, are proceeding, particularly those related to the science complex and classroom cluster, said Rozanski. Alternative sites have been found for the fine art studios and stored materials currently located in the barns in the middle of campus, which are to be demolished to accommodate the new classroom cluster.

### RECOMMENDATION ON TUITION FEES

Prof. Glen Van Der Kraak, chair of SCUP, said his committee supports tuition increases proposed in the report of the Enrolment Co-ordinating Committee and distributed to the Central Student Association, the Graduate Students' Association and Interhall Council, among other groups. The recommendation is to raise all fees — undergraduate domestic, graduate domestic and international — by two per cent in 2001/02.

In its report, the Enrolment Co-ordinating Committee says it recognizes that any tuition increase represents an increased burden on students. "Nevertheless, the fact remains that accessibility purchased at the cost of decreased capacity to mount quality programs is a self-defeating goal," the report says. "Even maintaining current quality levels requires matching revenue to increasing costs. These tuition proposals do not in any way satisfy that requirement."

The report also notes that two per cent is below the 2.7-per-cent rate of inflation for the calendar year 2000.

For most domestic undergraduate students, the increase will mean an additional $40 per semester; for domestic graduate students, it will mean another $32.50. As required by government regulation, 30 per cent of the fee increases will be set aside for student financial aid.

The fee recommendation will now proceed to the Finance Committee of Board of Governors and to the board itself for action.

### RESEARCH OFFICE RESTRUCTURING

Van Der Kraak added that SCUP has reviewed and commented on a report prepared for the president on the restructuring of the office of the vice-president (research). That restructuring has led to the creation of two new associate vice-president positions in charge of agri-food and research infrastructure.

Van Der Kraak said SCUP endorsed and supported this restructuring.

# Pet Trust Directors Open Nuclear Medicine Facility

*New diagnostic equipment can accommodate animals as large as an elephant*

A NUCLEAR MEDICINE diagnostic unit at the Veterinary Teaching Hospital (VTH) was opened Feb. 21 during a tour by board members of the Pet Trust Fund, which supported the purchase of the scintigraphy equipment.

OVC dean Alan Meek and Pet Trust chair D'Arcy Reade, a 1974 graduate of OVC, acknowledged the $250,000 donation from Pet Trust. "This facility is due to the generosity of many people who contribute to the Pet Trust Fund and to the foresight of its board of directors," said Meek. He thanked VTH director John Tait, clinical studies professor Howard Dobson and Geoff Byford of Employee Health and Safety for co-ordinating the installation.

The scintigraphy unit is the third in a series of facility upgrades at OVC that have been supported by Pet Trust. Earlier projects were the VTH radiation therapy unit and the intensive-care unit. Last fall, Pet Trust identified a magnetic resonance imaging facility as its next capital project.

A specialist in diagnostic imaging, Dobson says scintigraphy is a valuable diagnostic tool because it provides information on the functioning of an organ as well as imaging its size and location. The process uses a radioactive element that is injected intravenously. Radiopharmaceuticals can be designed to seek out and bind to the molecules of any organ or tissue in the body. At the destination site, the element undergoes radioactive decay, and the imaging camera records that decay, providing a continual flow of information on the function of the organ.

The technology is routinely used to diagnose conditions such as bone cancer, rheumatoid arthritis, thyroid disease and pulmonary thrombosis in both humans and animals, and can provide information on other conditions such as kidney functioning and the spread of cancer.

"The level of radioactivity in nuclear medicine is quite low," says Dobson, but precautions are nonetheless taken to protect veterinary technicians and other animals from exposure. The VTH nuclear medicine facility includes a holding room where the patient remains until the radioactive injection has decreased to a safe level, and there are provisions should the animal require intensive care during the waiting period.

Dobson expects that initially at least three patients a week will benefit from the scintigraphy equipment, which can accommodate animals as large as an elephant and can be used with the patient standing or lying on an examining table.

*BY MARY DICKIESON*

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NEWS IN BRIEF

### SCOTTISH STUDIES COLLOQUIUM SET

The Scottish studies program is holding a colloquium March 17 during College Royal. Beginning at 10 a.m. in Room 117 of the MacKinnon Building, the day will feature faculty and student speakers from Guelph, York University and the University of Toronto. Topics include "Scottish Immigration and Settlement in Canada: An Overview" with Prof. Kevin James, History, and "Gaelic Language Attitudes and the Valuation of Mouth Music in Cape Breton, Nova Scotia" with Heather Sparling of York. The day will conclude with an introductory course in Gaelic. The colloquium is free, and registration is not required. For more information, call Ext. 3209 or send e-mail to SCOTTISH@arts.uoguelph.ca.

### OMB GIVES NOD TO CANADIAN TIRE MOVE

The Ontario Municipal Board has ruled that Canadian Tire can relocate its Scottsdale Drive store to land on Stone Road owned by U of G. The decision means the Canadian Tire can expand from its current 34,000 square feet to a maximum of 100,000 square feet. The University, which has a long-term lease with Canadian Tire, has proposed a 95,000-square-foot store on the six-acre site.

### ENVIRONMENTAL BIOLOGY STUDENTS HOST SYMPOSIUM

"Environmental Sustainability: Emerging Technologies in Pest and Contaminant Management" is the theme of this year's Environmental Biology Graduate Symposium. Running March 13 at the Ontario Ministry of Agriculture, Food and Rural Affairs building on Stone Road, the symposium will focus on research being done by graduate students in the Department of Environmental Biology. Keynote speakers are David Pimentel, a professor of environmental policy at Cornell University, and Alan Seech, a three-time graduate of Guelph who is director of operations for GRACE Bioremediation Technologies.

### VEGETABLE GROWERS MEET

The Department of Plant Agriculture will hold its 50th annual Muck Vegetable Growers' Conference March 28 and 29 at the Holy Martyrs of Japan Parish Centre in Bradford. Organized by Prof. Mary Ruth McDonald, the conference is being chaired by Tony Moro, president of the Bradford and District Vegetable Growers' Association; Profs. Mark Sears and Cynthia Scott-Dupree, Environmental Biology; and Prof. Clarence Swanton, Plant Agriculture. The conference, to be attended by researchers, growers and industry, features the latest production and crop protection information on onions, carrots and salad crops. Details are on the Web at www.plant.uoguelph.ca/news/muckconf01.htm.

# U of G, Seneca Join Forces

*Articulation agreement gives college graduates 10 university credits towards B.Sc.*

U OF G and Seneca College signed a major new articulation agreement Feb. 14 that grants advanced university standing to qualified Seneca graduates.

The agreement allows three-year community college graduates to earn a university degree in a high-demand program in a little over two years. Qualified technology graduates of Seneca's School of Biological Sciences and Applied Chemistry will receive 10 university credits towards a four-year bachelor of science (environmental sciences) degree at Guelph. Students have the choice of entering the environmental protection, monitoring and analysis or enviromatrics majors at Guelph.

Representing U of G at the signing ceremony at Guelph were Prof. Alastair Summerlee, provost and vice-president (academic); Prof. Donna Woolcott, assistant vice-president (academic); and Prof. Michael Moss, associate dean, Faculty of Environmental Sciences. Representing Seneca were acting president Tony Tilly; Tony Tanner, dean of the Faculty of Technology; and Grace Lee, a chemical technology student.

"This new agreement reaffirms Guelph's commitment to developing collaborative partnerships with community colleges that share our academic vision and strengths, in this case in the environmental sciences," said Summerlee. "It also complements our earlier articulation agreement with Sir Sandford Fleming College announced this past fall, capitalizing on the environmental science strengths of each college to offer students a range of Guelph majors in their chosen fields of study."

Tilly said he is "very excited to offer our students this opportunity to pursue a career in an area that has great importance and impact for us all. Together with the University of Guelph, we will provide graduates with a unique skill set — graduates who will have what it takes to make a valuable contribution to environmental sciences in Canada and ultimately across the globe."

Moss noted that environmental management is one of the fastest-growing career sectors in the country. "Students who combine our two programs will have a distinctive blend of skills, knowledge and theory, allowing them to make a unique impact in the field," he said.

# Campus Master Plan Review Will Map Vision for Future

*Steering committee established with cross-campus representation*

AN UPCOMING REVIEW of the University's campus master plan is an opportunity for the U of G community to create a physical blueprint for the future that will reflect Guelph's current mission, strategic directions and values, says Nancy Sullivan, vice-president (finance and administration).

"This review will give us a chance to step back and look at our vision for the campus for the next five to 20 years," she says. "We need to ensure that our facilities are a welcoming environment for learning, teaching, research, work and living, because this attracts and retains high-quality faculty, staff and students."

The University's original master plan dates back to 1964. To accommodate growth in the 1960s and '70s, it was updated about every five years, with the last review in 1987. The University has since experienced extensive change in academic programs and strategic directions, Sullivan says.

In addition, U of G is now in the midst of a building boom caused in part by recent government funding of several campus projects, including the addition to the Thornbrough Building and the construction of a science complex and classroom cluster. The projects are designed to enable U of G to accommodate a surge in student enrolment expected in 2003.

Chris Pickard, director of planning, engineering and construction, and Prof. Jim Taylor, Landscape Architecture — who has been seconded to act as plan co-ordinator — will oversee the campus master plan review. A steering committee chaired by Board of Governors member Mary Elizabeth Flynn and made up of faculty, senior administration, staff and students has been established. It held its first meeting in mid-February.

The review is expected to last a year, with a plan ready by spring 2002. Taylor, a campus planning expert, says the review will unfold in several steps. The first is to develop a vision of what the campus can be over the long term.

"We want to engage the University community in this step," he says. "We want them to help us develop that vision."

A consultation process to keep the University community involved in the review at key points is also part of the plan. A planning consulting firm to be selected by the steering committee, as well as the committee itself, will hold information meetings with stakeholders regularly.

Another important step will be to identify key challenges facing the University, especially in the area of physical facilities. Issues already pinpointed include campus growth, the condition of existing infrastructure, housing needs and financial constraints.

Other objectives considered will be current academic programs, student and faculty needs, the University's relationship to the community and the environment, architec- tural form and character, landscape development, and service systems.

The study will also examine the capacity and condition of U of G's central utilities: steam, chilled water, water, gas and sewers. Utilities were last assessed in 1996, when little development was expected. Now that growth is much greater, there is a need to determine the improvements required to support campus development well into the future. Physical Resources has already hired an engineering firm to complete this study, which will become part of the campus master plan.

The master plan review will focus on the University's core academic lands between Edinburgh and Victoria roads. It will exclude the Cutten Club, which will remain a golf course for the foreseeable future, and the Arboretum, which has its own master plan.

The updated plan will contain guidelines for transportation, including pedestrian and bicycle travel as well as parking, says Sullivan, who notes that this is an opportune time to look at these issues because the City of Guelph is now amending its own official plan.

"The revised plan will provide for a safe, more physically accessible campus because it will seek to balance pedestrian and vehicular transportation needs," she says.

Pickard adds that another important component of the review will be the preservation of the campus's heritage and beauty.

"Landscape and buildings strongly influence how students, faculty, staff, visitors and graduates feel about their university experience," he says. "A comprehensive campus master plan will show all of our constituents that we have a road map for the future."

Following its March 8 meeting, the steering committee will send out a request for proposals for the planning consultant, with interviews and selection planned for April. The committee's job will then be to work with the consultants to develop the University's vision, assist in community communication and consultation, review the study's progress and provide comments to the consultants team, and report to B of G's Physical Resources and Property Committee. This committee will report to the board, which will eventually consider and approve the revised campus master plan.

*BY SUZANNE SOTO*

## PEOPLE

### MURRAY NAMED TO ORDER OF CANADA

Former Board of Governors chair and longtime U of G supporter Ken Murray has been named to the Order of Canada. Murray, who graduated from OAC in 1950 and received an honorary doctorate of laws from Guelph in 1996, has distinguished himself as a respected business executive (retired CEO of J.M. Schneider Inc.), community leader, philanthropist and volunteer. A former chair of the Homewood Corporation, he founded the Homewood Foundation and established the Murray Alzheimer Research and Education Project at the University of Waterloo. He also initiated the Science and Society Project at U of G and Waterloo. Over the years, Murray has served U of G in many roles — as a member and chair of B of G from 1973 to 1978, as a member of the 1980s capital campaign advisory committee, as interim vice-president (University affairs and development) for two years, as a member of the Heritage Fund Board of Trustees from 1991 to 1998 and as first chair of the board's Heritage Enhancement Committee. In 1985, he was named U of G's Alumnus of Honour.

### RIDLEY HEADS ONTARIO LIBRARY ASSOCIATION

Chief librarian Mike Ridley began a one-year term as president of the Ontario Library Association (OLA) Jan. 1. The oldest and largest library association in Canada, OLA just celebrated its 100th anniversary and has more than 4,000 members. For more information about the association, visit the Web site www.accessola.org.

### CITY APPOINTMENTS MADE

Several members of the University community were on the roster of Guelph citizens appointed to various city boards and committees this month. Retired crop science professor Bill Tossell was named to the board of commissioners of Guelph General Hospital for a one-year term. Prof. Alan Wildeman, director of the Food System Biotechnology Centre, was appointed to the Economic Development Advisory Committee for a one-year term. Appointed to the board of directors of the Wellington-Dufferin-Guelph Health Unit for one year is Lynda Davenport, director of Student Health Services. Janet Kaufman of the U of G Library was named to the Transit Advisory Committee for one year. Jeanine Boulter of Laboratory Services has joined the Torrance Creek Subwatershed Committee for one year.

## IN MEMORIAM

Retired faculty member Marjorie Phillips White, a nutritionist in Macdonald Institute and the College of Family and Consumer Studies from 1966 to 1975, died Dec. 4 at the age of 90. Predeceased by her husband, Harold, she is survived by a sister, two step-daughters and five granddaughters.

# Family Relations Study Explores Links Between Gambling and Parenting Styles

*Researchers will examine broad range of gambling from betting and casinos to game wagers and poker*

AT FIRST, it seems strange that Prof. Gerald Adams would choose to study gambling. The topic appears far removed from his usual course of study as a faculty member in the Department of Family Relations and Applied Nutrition. Adams is renowned for his work on adolescent identity development and wrote an entire series of books on the topic, examining the effect parenting styles have on childhood and adolescent behaviour.

"I've always been interested in identity formation and how people establish a sense of identity, along with values and goals," he says.

But lately, Adams has been pondering whether certain parenting styles could be encouraging children to seek risk-taking venues such as gambling. He has received $168,000 from the new Ontario Problem Gambling Research Centre to find out if his hunch is correct. His study was one of 11 funded last year.

"We expect to find that children who grow up in families that are predominantly authoritarian tend to engage in risk-taking behaviours, gambling being one," he says. "If we can find a relationship between such factors, then we can predict such problematic behaviours and find ways to prevent them."

Preventing excessive gambling is one of the directives of the Ontario Problem Gambling Research Centre, which opened in Guelph's Research Park last year. The provincial agency is funded by two per cent of the revenues from slot machines at charity casinos and racetracks.

"We had $4 million to work with last year, which makes us the largest problem gambling program in North America," says centre director Rob Simpson. Simpson is the past director of the Homewood Behaviour Health Corporation and was once executive director of the Wellington-Dufferin District Health Council.

He says the research centre's mandate is to invest in studies that will lead to improved understanding of problem gambling.

"When the government decided to expand gambling in the province, it was aware that one of the unintentional problems would be an increase in problem gambling. The research we are funding explores how problem gambling develops, how to prevent it and how to treat it effectively."

Adams's project will aid in those efforts by looking at the relationship between adolescents and problem behaviours, including gambling, says Simpson. "It was an interesting project because it uses his existing research base outside of problem gambling and marries it to this field, looking at how it relates to a person's tendency to gamble."

Working with graduate student Anne-Marie Cantwell, who is specializing in addictive behaviours, Adams will study the gambling habits of students attending the universities of Guelph, Windsor, Brock and Wilfrid Laurier.

"We will cover the spectrum, examining a broad range of gambling, from betting and casinos to game wagers and poker," he says.

University students are ideal research candidates because many of them are living away from home for the first time, yet remain strongly connected to their families, says Adams. It's also a crucial time for self-development and self-identification, he says, and the influence of parenting styles is still strong.

Brock University and the University of Windsor were selected for their close proximity to gaming venues. "We chose Guelph and Laurier for the opposite reason — they are more buffered from serious gambling venues," says Adams.

He adds that he was prompted to explore the possible connection between gambling and parenting styles after conducting a study with the University of Alberta on the relationship between self-identity formation and mental health. During this study, Adams realized that identity development is influenced by a number of factors and can lead to certain types of human behaviours, like a tendency to gamble.

"This provided me with the stimulus, showed me there might be a place for me in gambling research. Before, I didn't see a connection."

*BY LORI BONA HUNT*

# Microbes Join Clean-Up Team

*Engineers take new approach to dealing with aftermath of underground storage tank leaks*

LEAKY GAS-STATION storage tanks can be a difficult and expensive mess to clean up. That's why U of G researchers are enlisting soil microbes, along with other techniques, to do some of the dirty work.

Statistics show that one in four gas stations in North America leak gasoline — a mixture of many dangerous chemicals, including benzene, a known carcinogen — into the soil and ground water. Ultimately, if the leak is large enough, the gas can contaminate a city's drinking water supply or possibly lead to dangerous explosions.

So engineering professor Richard Zytner is working with graduate students Tej Gidda and Kirsten Shewfelt to improve methods for removing gasoline chemicals from the ground, including using soil microbes — naturally occurring soil microorganisms — to help remove the traces of contamination that often remain after gas has been removed by other means.

"Leaky gas storage tanks are a difficult problem because they're a case of out-of-sight, out-of-mind," says Zytner. "But because one litre of gasoline can potentially contaminate a million litres of water, it's a problem that can't be ignored."

Because soil is naturally corrosive, the pipes and tanks of underground storage tank systems can be degraded or damaged over time. Once gasoline leaks from the system, it enters the surrounding soil, which is porous (soil typically consists of 25- to 50-per-cent air pockets). That means gas gets trapped in the pores — and once it's there, removing it can be a time-consuming and expensive task. Cleaning up a serious leak can take several years at a cost of more than $450,000.

Currently, most gasoline leaks are remediated with soil vapour extraction. Wells are drilled into the ground and connected to a vacuum pump to volatilize and remove the gas from the soil. This technology effectively removes the bulk of a gas spill, but its efficiency drops off over time. This "tailing" effect leaves some gas trapped in the soil pores.

"Depending on the soil type and water content, the levels of gas remaining due to tailing are usually higher than the clean-up level mandated by the government," says Zytner.

To better understand this problem and make adjustments to the process, the researchers are simulating gasoline spills in the laboratory and conducting soil vapour extraction experiments. By measuring the amount of gas remaining in the soil over time and characterizing the soil type and water content, the team can determine extraction effectiveness and pinpoint areas for improvement. Zytner's team is also using the data to design a computer model to predict the capability of the soil vapour extraction process to remediate contaminated soil.

In addition, they're working with Cushman-Ball Environmental Limited to investigate an existing technique known as "bioventing," which relies on the activity of naturally occurring soil microbes to degrade the gasoline that remains in the soil after soil vapour extraction ends. Soil microbes can be stimulated to degrade petroleum hydrocarbons if they're given the right conditions, says Zytner. "We're trying to optimize the appropriate nutrient requirements for these microbes so they can help clean up gasoline that the tailing effect leaves behind."

Once the team finds the best nutrient mixture to stimulate the microbes, the next challenge will be to find the most effective method for dispersing the mixture into the ground. One possibility is to install a number of small holes (injection ports) in the contaminated ground, through which nutrients can be evenly delivered to the gas-degrading microbes.

This research is sponsored by in-kind contributions from Cushman-Ball and by the Centre for Research in Earth and Space Technologies and the Natural Sciences and Engineering Research Council.

*BY CHRISTINA CLARK*
*OFFICE OF RESEARCH*

**@GUELPH PUBLICATION SCHEDULE**

| Publication Date | Deadline | Publication Date | Deadline |
|---|---|---|---|
| March 14 | March 5 | May 9 | April 30 |
| March 28 | March 19 | May 23 | April 14 |
| April 11 | April 2 | June 6 | May 28 |
| April 25 | April 16 | June 20 | June 11 |

# Court Documents Offer Insights Into Nature of Insult, Social Order in 16th-Century Scotland

*Goal of three-year project is to increase available resources about women's history in Scotland*

SCOTTISH STUDIES professor Elizabeth Ewan's research is insulting. Well, let's rephrase that. What she's doing, in fact, is studying the nature of insult and social order in 16th-century Scotland from the perspective of women.

It was the dearth of documented women's experiences in medieval and early modern Scotland that led Ewan to oversee the ambitious three-year project "Misbehaviours and Gender in 16th-Century Scottish Towns." Based primarily on court documents and historical and literary material, the project consists of a biography, an examination of insults and a Web-based bibliography. The goal of the project is to increase available resources about women's history in Scotland and gain a better understanding of Scottish life around the time of the Reformation.

"If you don't look for women, you won't find them," says Ewan. "Uncovering life in Scotland as told from a female voice will enlarge our understanding of that era."

In the first part of the project, Ewan is researching the life of a woman with a slanderous tongue and aggressive nature named Alison Rouch, who lived in Edinburgh during the first half of the 16th century. Rouch had a strong presence in court documents, which provide ample information about a woman's perspective and illustrate social deviance related to gender.

Prof. Elizabeth Ewan is examining historical court documents to get a woman's perspective on life in 16th-century Scotland. PHOTO BY MARTIN SCHWALBE

Left a widow at an early age, Rouch took assertive action to defend her interests and those of her children, including suing neighbours over property, insulting fellow townspeople, quarrelling over her daughter's dowry and — in the act that made her infamous — killing her son-in-law in 1535.

With the criminalization of witchcraft in the 1560s, women such as Rouch faced a new threat: a woman insulted as a witch faced possible prosecution and execution as a witch. Assertiveness could prove to have fatal consequences.

The study of Rouch leads into the second part of Ewan's project, which she is carrying out with the help of Scottish studies doctoral students Shannon Creps and Janay Nugent — an examination of the nature of insult and social order as seen from a woman's perspective. The insults used by men and women reveal contemporary ideas about appropriate male and female roles.

*Documents show that misbehaviours in 16th-century Scotland were punished by public humiliation and shame.* After being paraded around town, deviants were forced to apologize publicly, usually beginning with the formal declaration: "Tongue, you lied!"

One form of punishment was the branks, a metal contraption strapped on to the head, with a piece inserted into the mouth, says Ewan. In some countries, only women were punished with such devices, but in 16th-century Scotland, both men and women could face this.

One question Ewan is examining is whether verbal assaults were as closely identified with women as seems to be the case elsewhere. Preliminary findings seem to suggest that, at least in this instance, treatment of men and women may bave been relatively even-handed.

The third part of her study is dedicated to increasing tbe number of resources available for women's history in Scotland. Ewan plans to facilitate further study on the experiences of Scottish women in historical and literary materials, and predicts Scottish women's studies will become increasingly popular in the next decade.

The Web bibliography, which is being created with the help of students Devin Cassidy and Coby Dowdell, is located at www.uoguelph.ca/~eewan.

This research is sponsored by the Social Sciences and Humanities Research Council.

*BY CHRISTIANE SCHMIDT*
*OFFICE OF RESEARCH*

# Centre for Family Farm Succession to Be Established

*Only two per cent of Canadian farmers have a fully developed succession plan*

OVER THE NEXT two decades or so, 120,000 Canadian farmers currently approaching retirement age will transfer at least $50 billion in assets. They'll probably keep those assets in the family because farmers are five times more likely to transfer their property to immediate relatives than is the case for other family businesses. But according to a recent survey conducted by the Ontario Agricultural College, only two per cent of farmers have a fully developed succession plan and only 15 to 18 per cent have a legal will.

This situation is the reason U of G and its partners are establishing a new research and teaching institute called the Centre for Family Farm Succession.

"Farm succession is the most significant financial issue facing Canadian agriculture today," says Prof. Kevin Parton, chair of the Department of Agricultural Economics and Business. "Some 120,000 farmers will reach 65 years of age over the next 10 years, a demographic structure that is driving the establishment of this centre. Because Guelph is one of the country's leading agri-food research and teaching institutions, we believed it was our responsibility to research the issues involved, enhance the knowledge of skills of service providers, provide information to families engaged in the succession planning process, and introduce these concepts into the curriculum for our undergraduate and graduate students."

The centre, a joint initiative of the Department of Agricultural Economics and Business, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), OAC and a number of for-profit and not-for-profit organizations, will be incorporated this spring and based in the J.D. MacLachlan Building.

A steering committee was established last year to consider the various issues involved.

"Many farmers will transfer within the family to daughters, sons, sisters, brothers or other relatives," says Parton. "Most of these within-family transfers involve an on-farm sibling and an off-farm sibling or siblings. Even where the transfer of ownership involves a sale outside the family, there is a need for a succession plan that often includes a number of family members. So, as well as the financing of the transfer of assets directly, the financing must account for the demands of the various family members, such as the retirement income needs of the parents, the farm investment needs of the on-farm sibling and the off-farm business investment needs of the off-farm sibling or siblings. There is also the considerable issue of ensuring an efficient transfer of real farm assets, which usually requires imaginative methods of financing."

> *"Farm succession is the most significant financial issue facing Canadian agriculture today."*

The need for such a centre was evident when a pilot one-day course on succession planning awareness for farm associations, agribusinesses and field staff was offered Jan. 31, says Parton. "All the available spots were taken within days of it being announced."

In the short term, the centre will concentrate on presenting another series of short courses. From there, centre activities are expected to blossom to include faculty and student research projects, undergraduate course development and the development of a public database and information source on family farm succession planning.

Parton notes, however, that the family farm succession issue goes beyond dollars and cents. "There is a real human relationship dimension to farm transfer that we will hope to address and better understand, because these elements are least understood but often turn out to be the most significant force in the process of change. In this context, family farm succession is also about the challenges of intergenerational change and communication. Personal goals and perceptions can cloud the communication and make reaching consensus complicated."

Last year, Richard Cressman, a student in the distance education agriculture MBA offered jointly by U of G and Athabasca University, reviewed the farm succession planning area under the supervision of Prof. Elliott Currie, Agricultural Economics and Business. They found that managing succession issues is important, but perhaps even more so are researching and teaching the co-ordination of these areas.

"There is plenty of expertise available in each of these areas, but the research task is to design ways in which co-ordinated succession plans can be developed that address the financial, real resource and human issues simultaneously," says Parton.

He credits Peter Coughler, an OMAFRA employee on secondment, with playing a leading role in developing the plan for the centre over the last 15 months, and says the next task will be to find additional sources of funding to nurture the strong start already made.

For the future, Parton envisages that a chair in family farm succession could be established in his department.

"The research and teaching portfolio of the chair would need to include sustainable management strategies directed at financial resources, real farm assets and human resources," he says.

*BY ALEXANDER WOOLEY*

# COMING TO AN UNDERSTANDING

*"I worry that we may be narrowing our vision to the size of a computer screen and our ability to talk to each other to a chat room."*

BY PEGGY KNAPP

Editor's note: Peggy Knapp, who is known nationally and internationally for her work with rural women and families, received an honorary degree last week during winter convocation. She delivered the following address to graduands of the Ontario Agricultural College and the Faculty of Environmental Sciences.

ILLUSTRATION BY SARA TYSON

THE INCOMPARABLE FRENCH pantomime artist Marcel Marceau, who never in his performing life was heard to utter a single word, on one rare occasion when he did speak, said: "Do not the most moving moments of our lives find us all without words?"

Those words reflect my own innermost feelings today as I accept this honorary doctor of laws degree from the University of Guelph. I am deeply moved and exceedingly honoured. Indeed, the only comparable event I can recall is that February evening 52 years ago at the Conversat Ball — on almost this exact spot and date — that a young graduate of OAC '48 named Wally Knapp asked me to share the rest of his life with him. Fifty years later, he claims one of the most important things he learned at OAC was tolerance. So on behalf of Wally and our family — and with gratitude to those mentors who, over a lifetime, encouraged and supported me in all endeavours, I accept this great honour and pay tribute to this university, which has played a large and important role in three generations of the Knapp family.

It is my additional pleasure today to accept the honour of addressing the graduates — you who make up this first class of a new millennium. In the year 2000, agriculture and the environment have dominated the news and been locked in a new partnership where it is crucial that we have educated minds and unbiased analysts who have honest opinions and the ability to share controversial information from a solid base of knowledge. Society will no longer accept half-truths, mixed messages nor what appears to be blatant self-interest — especially in the area of food safety and environmental sustainability.

Today, you are finishing one stage of your education. But education does not finish as you walk away from formal schooling. Education is an ongoing social process. As John Dewey once said: "Education is growth . . . education is not a preparation for life; education is life itself."

From here, some of you will continue with post-graduate studies, perhaps at this university, perhaps in some other institution of learning in another country.

Some of you, graduating in agricultural science, may return to basic agriculture using new tools to tackle new challenges. Genetically modified organisms, water quality, environmental sustainability in the face of intrusions from encroaching populations and industries, world hunger and alternative crops to produce renewable energies. Others will go into agribusiness and economics, animal and poultry science, land resource management, plant agriculture or rural extension.

Those who are graduating in environmental sciences are on the leading edge of a new science and will be expected by society to be responsible monitors and analysts of water, soil and air quality, earth and atmospheric security, management of natural resources and consultants on environmental law, which I foresee will become a priority in the future as governments bow to the demands of their citizens.

Whatever path you may follow, all of you must be leaders. As leaders, you will have two things in common:

1. Credibility. In free societies, there are four pillars of justice — facts, issues, resolution, direction. In my work, it has been my experience that in resolving controversy, in reaching consensus and in avoiding suppositions, only *facts* must enter into discussions. Once the facts of any matter have been established, it is then necessary to identify the *issues* arising from those facts. Only then is it possible to reach consensus on *resolving* those issues. And possible to see the *direction* in which to move forward.

2. Communication skills. We have more communication tools literally at our fingertips than ever before in history. You are the first computer-literate generation in the world. None of us — not even I — could get along without our computer and e-mail.

But I worry that we may be narrowing our vision to the size of a computer screen and our ability to talk to each other to a chat room. The ancient arts of storytelling, of listening to each other, may be becoming dulled — or even lost. More than ever before, the world needs leaders with vision, for it will be those who possess the communications skills — to verbalize those visions, to inspire and to influence — who will truly shape the future.

There are many ways to communicate — formal schooling, self-education, music — and in the developing world, I have seen all of those. But in the Russian Museum of Art in Moscow, only months before the Iron Curtain was lifted, I experienced the most profound communication of my life.

I was looking at a life-sized statute titled *A Peasant in Trouble* — a bearded peasant sitting stooped in abject despair. With a hand on his father's knee was his son, looking into his father's face and asking: "What's the matter, Daddy?" And although I knew it is forbidden in every gallery in the world to touch the treasures on exhibit, I stretched out my hand to touch the peasant's shoulder.

At that precise moment, a little babushka, one of whom sat in each gallery of all public museums in the then Soviet Union, stepped forward, and I felt two hands on my own shoulders. As I turned to look at her, she smiled, took my face in her hands, and moved me down so I could look up into the face of the father, and down into the face of the child. And suddenly I could feel all the pain, all the despair and the hope for the future faced at some time by all humanity.

And as I stood and turned toward this tiny Russian woman, it was the most natural thing in the world for us to embrace. And the tears on both of our faces mingled, for we realized that there in the public gallery, two human beings with almost nothing in common had, for a brief moment in time, understood each other perfectly — without saying one word. That's what I mean by communicating.

You will be citizens of the world, dealing with cultures different from your own in languages not spoken in your mother tongue. For each of you, it is my wish that you, too, may experience something of that profound understanding throughout your life's work.

I have not been able to leave you with new scientific principles or published papers. But I do leave you with words long remembered from one of Tennyson's poems, spoken by Ulysses near the end of his journeys in the known world of Greek mythology.

"I am part of all that I have met
Yet all experience is an arch wherethrough
Gleams that untravelled world
Whose margin fades,
Forever and forever
As I move."

May your journeys, like mine, be a series of arches with new horizons beckoning you to new challenges and new opportunities.

# New Guelph Orchestra Draws on U of G Musicians

MUSIC THAT'S sparkling, profound and speaks to the soul. That's the promise from the new Guelph Chamber Orchestra, which will perform its debut concert March 4 at Church of Our Lady. Among the orchestra's 28 musicians are six U of G faculty and students.

The artistic director and conductor of the new orchestra is Simon Irving, who is musical director at Church of Our Lady. He says musicians and audiences in Guelph have long expressed a desire for the city to launch its own orchestra. "Guelph is brimming with musical talent, and this orchestra will give expression to that talent," he says.

Musicians recruited for the Guelph Chamber Orchestra include 12 professional musicians and many others like Prof. David Knight, Geography, who have played at a professional level. Knight also plays timpani in the U of G Orchestra and the Guelph Concert Band and is serving as a member of the Guelph Chamber Orchestra's board of directors. He says the new orchestra will enrich the musical life of the city and will complement performances by the U of G Orchestra, the city's youth orchestra and other professional orchestras such as the K-W Symphony, which offers a concert series at the River Run Centre. "I think people will enjoy the variety of music performed by all these groups," he says.

In addition, Knight is hopeful that having a permanent chamber orchestra in Guelph will raise the level of awareness of orchestral music and have a positive influence on the role of music in the city.

"Many of the musicians in the Guelph Chamber Orchestra are also teaching music," he says, "and we have identified musical education as a clear goal of this endeavour, beginning with the opportunity for students to see and hear their teachers perform in a professional orchestra."

In addition to Knight, the Guelph Chamber Orchestra's U of G contingent includes Prof. John Liefeld, Consumer Studies, on double bass and retired English professor Leslie Marshall on bassoon. U of G students in the orchestra are Kirstin Horn on cello, Kirsten Bos on oboe and Tahti Leesment on keyboard.

The program for the opening concert includes works by Mozart, Beethoven, Bach and Schubert. Tickets are $20 general, $15 for seniors and $10 for students and are available at the River Run Centre box office or at the door of Church of Our Lady prior to the 3 p.m. concert.

# A World Away

*Environmental biologist helps change lives — including his own — in the Brazilian Amazon*

BY LORI BONA HUNT

PHOTO BY DEAN PALMER/THE SCENARIO

PROF. JOHN SUTTON lives in two different worlds. In one, he's an environmental biologist whose expertise has brought U of G accolades and hundreds of thousands of dollars in research funding. Most recently, he and two colleagues received $360,000 from the Natural Sciences and Engineering Research Council (NSERC) to develop ways to use fungi and bacteria to protect crops grown without soil. Their work will eventually help astronauts harvest vegetables in space. In the meantime, they hope to keep Canada's $1.5-billion-a-year hydroponic plant industry competitive and solve its associated groundwater problems.

But in his other world, what Sutton does has little to do with NSERC grants and outer space. In this existence, he's the "gringo" who at least once a year heads off to the Brazilian city of Bélem lugging clothing, toys, medical supplies and anything else he can fit into his swollen suitcases that he thinks will be of use. He's the man who helps build sturdy houses high enough above parasite-infested waters for people to stay healthy. And he's the Canadian who taught himself Portuguese so he could communicate with the people he helps.

Most likely, no one in the poverty-stricken fringes of Bélem who has benefited from his kindness knows why he does it. They only know that if they need help, he'll do everything he can to provide it.

You can see glimpses of this "other world" in Sutton's office in the Bovey Building, where I went initially to talk about his NSERC project, which also involves environmental biology professor Chris Hall and plant agriculture professor Bernard Grodzinski. They are investigating biological methods of protecting hydroponic plants, which are vulnerable to root diseases that might normally be held in check by fungi or bacteria that live in natural soils. The researchers are actually "recruiting" some of these microbes to work as agents in a soil-free environment and carry out functions similar to what occurs in outdoor crops. All this means that hydroponic plants should stay healthy and productive, whether they're grown in greenhouses or in space vehicles. But more immediately, it will help stop groundwater contamination by allowing hydroponic greenhouse growers to continuously recirculate nutrient solutions instead of discharging them into the environment.

It's fascinating research, but during our conversation, my eyes kept wandering to Sutton's office walls, which are covered with photos of people, maps and other mementoes from Brazil. I kept waiting for some type of connection to emerge between our topic and what was on the walls, but it never came. I later learned that if you don't ask about the photos — or why he keeps a big stuffed toy baboon on his desk — he won't tell you about this "other life." He's too modest.

But I did ask. And I learned that the photos on the walls are of people Sutton has befriended in Brazil, families he's helped over the years. The toy baboon is for a 10-year-old girl named Bruna, whom Sutton met when she was four years old. He's helping her family build a new home of concrete because their wooden shack is sinking into a swamp. He's going to visit the family at the end of March and plans to carry the stuffed baboon (and its twin brother) on his lap all the way to Brazil.

Our interview wasn't the first time Sutton's two worlds have collided. In fact, it was work that first took him to Brazil in 1986, where he was asked to help with a wheat tillage project. "I was instantly fascinated with the culture, the people, the natural areas and the incredible agriculture. I can't describe what it's like to fly over the Amazon at sunrise, over this massive river system. It is simply awesome. You can't help being taken in by it."

For several years, Sutton worked mostly with university researchers and scientists and went out of his way to avoid areas that he was told were dangerous for "gringos." All that changed one day when he spotted a young woman about the age of his daughter.

"I remember she was in rags and was so skinny. She had this dazed look about her, and she was carrying this stick over her shoulder with everything she owned tied up in a bundle on the end. I just kept seeing her face. Then there were the kids in the endless wooden shacks clustered around the cities, and young mothers and kids who would go around picking up garbage for a living. I kept thinking: 'I want to do something, but what can one person do? How can I do it without embarrassing my Brazilian colleagues? And where to start? But I couldn't let it go. I had seen poverty as a child in post-war England, but nothing like this. It was there in front of me every day, and it was real."

In 1994, Sutton attended a symposium in Bélem, a port city in the Brazilian Amazon. He mentioned his desire to help in some way to a graduate student, who suggested he talk to a woman who worked in the hotel where he was staying. Over the next few days, he learned that the woman and her husband had lost their home in the central Amazon in a fire and had been forced to leave their four children with their grandparents some 2,000 kilometres away (a four-day trip each way by river) so they could find work. She hadn't seen her children in seven years.

"This woman — Marlise Vieira de Oliveira — and her husband were living in a room under appalling conditions, earning the equivalent of about $100 Canadian a month. Her children were working as well, back up the river. Her sons broke up rocks by hand for road beds to help buy food. She said she had no hope of ever seeing her children again."

During that trip, Sutton made arrangements for de Oliveira to visit her family and to find a better place to live. He sent mysterious packages with clothing and health-care items to her children as well.

The following year, Sutton returned to Brazil for a project that involved crop disease management in flood-plain agriculture of the Amazon. Invited by the Federal University of Para State to travel on the massive river system, he ended up in the rainforest periphery of the town where de Oliveira's children lived. "I asked one of the professors if he could take me to their home, and it turned out that he knew them. I couldn't believe it. So I met the children and their grandmother and helped facilitate their move to Bélem to be with their mother."

He later helped the family buy a new home — financing it in part with money from an inheritance and a timely 40-per-cent drop in the value of the Brazilian real. He has continued to support the family over the years. He calls them regularly and visits each year when he goes to the area on projects. It was through de Oliveira that he met Bruna and her family — and many more families in need.

"Bruna's family were all living in a one-room shack with sluggish, greenish slimy water all around and — after each heavy rain — a foot deep inside the house. On one visit, I had to wade through knee-deep water for several minutes from the taxi, and once inside the house, my legs were ceremoniously washed with soapy water, amid much laughter, to make sure parasites didn't make a home in me. But I have never seen such extraordinary happiness in my life. Here they are, living in dismal conditions, working hard for appalling wages, their children don't have any toys except what I bring, and they are so bright but lack opportunities to learn beyond basic education, yet they never complain and rarely ask for help."

Sutton, whose wife, Dawn, sometimes accompanies him on his trips, says the people he has met in Brazil have changed his life. "The materialism and self-indulgence of so many more wealthy people around the world, including in Brazil, has just become appalling to me, as well as the pettiness of so many of our worries and concerns compared with what these people face."

What is his reward for his tireless commitment? At a national scientific meeting, Sutton's Brazilian research colleagues unofficially, but publicly, declared him an honorary citizen of Brazil. "It was very moving," he says. "They meant what they said from their souls."

He also finds his reward on the streets of Brazil. "When I am there, I hear: 'Oi, João' (Hi, John) all the time. It comes from windows, from the street, or sometimes taxi drivers recognize me from previous visits. Once when I was at a river beach with about 1,000 Brazilians, my white skin standing out against the brown of everyone else, a student who was in a course I taught on the other side of the country two years earlier yelled from across the river: 'Oi, João.' It all comes down to one word: 'Amizade,' which is translated as 'friendship,' but its meaning is stronger than that to them."

*Editor's note: Sutton doesn't like to ask people for help, but says he never turns down donations for the people of Brazil. He will deliver goods such as used jeans, T-shirts, shorts, running shoes, household items, health items, tools and toys. He can also help people interested in sponsoring Brazilian families.*

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Valerie Poulton

## Corrections

IN THE FEB. 14 issue of *@Guelph*, the Internet Web site address for Tony's Web Site was incorrect. The correct URL is www.uoguelph.ca/~antoon. In the same issue, it was incorrectly reported that honorary degree recipient Peggy Knapp is the daughter of George Jones.

# LETTERS

## COMMUNICATIONS WIRING CONSIDERED LOW PRIORITY

I read with great interest Prof. Michael Brookfield's Jan. 19 letter about the Thornbrough addition and the Jan. 31 reply from architect Paul Hammond.

I do like the look of the building as it is sited and the way it presents a fairer face to its older brutalist sister, the University Centre. I suppose we could label its style as "neo-international" — a revival of the ideas of Philip Johnson, Walter Gropius and Corbu — and know that a great number of young architects would laud and magnify its daring use of material and the design of its interior spaces.

My disappointment with this building has to do with the mechanical systems and, more specifically, the communications wiring infrastructure.

When I first met with the architectural firm, I had high hopes that we would have the opportunity to help design a building that "met and exceeded" the computer network wiring requirements of a 21st-century structure, but was disappointed to find there was little interest in making the building (mostly designed to teach the joys and vagaries of computing) a stellar example of what is required in modern network environments.

It felt as if our attempts at contributing to the design were dismissed and once again considered low on the priority list of building requirements.

These days, there are a great many people insisting that "structured wiring" assume the same importance as a building's heating and ventilation, plumbing and electrical supply. And my colleagues and I, having crawled about dusty basements and attics to bring the network to so many offices here and there, know this to be true.

On another matter, I hope that whatever committee is in charge of tearing down the barn in the middle of campus will consider asking the Mennonites to take it apart with reverence and respect and make it into other barns somewhere in the wilds of Wellington or Waterloo instead of having it bashed down by a power shovel.

Chuck Nixon, Communications Services

## HUMAN RIGHTS POLICY NEEDED NOW AT U OF G

I am writing to express my strong support for the current "Human Rights at the University of Guelph" document and to urge its adoption immediately. The document is the thoughtful and considered product of more than five years of formulation and extensive consultation within the University community. In addition, there are provisions in the document for review and revision.

I do not share the U of G Faculty Association's reservations about the document and wish to dissociate myself from its opposition to immediate approval. In addition to providing protection and mechanisms for resolving grievances, the policy offers education to prevent abuses before they happen rather than waiting to intervene until they occur, with all the damage that entails. We need a human rights policy at the University of Guelph and we need it now.

Prof. Helen Hoy, School of Literatures and Performance Studies in English and Women's Studies

## DIRECTION OF NEGOTIATIONS IS NOT BEST FOR COMMUNITY

I am writing to register my dissent from the recently presented position of the U of G Faculty Association (UGFA) with regard to the University's draft human rights policy. Aside from what I perceive to be an overly combative stance and what at times appears to be a tendency to generate paranoid scenarios from the original document, I have specific objections to three fundamental positions taken by UGFA, as I outline below.

1. The definition of academic freedom and its extension to include pedagogical practice and evaluation are far too broadly drawn. Such an encompassing definition has the potential to turn academic freedom into a shelter for discriminatory practices. Relations with students in the classroom and the evaluation of students need to be part of any discussion of systemic discrimination.

2. The assertion that personal beliefs are unprotected by the policy needs to be rigorously qualified. As far as I understand the law, personal beliefs are not protected under the Ontario Human Rights Code in an absolute fashion. Such beliefs are always to be counterbalanced by the need to protect the rights and freedoms of the collective. This balancing of the personal and the collective should also inform our discussion because some of the UGFA statements seem to suggest that faculty will retain the right to discriminate against certain grounds because their very existence as grounds runs counter to their personal beliefs. Such a blanket position is open to extraordinary abuse.

3. I am also concerned by the lack of clarity regarding UGFA's challenge to the list of grounds. For example, the assertion that because the Ontario Human Rights Code does not formally state that gender identity is a ground fails to account for its recognition by other provinces.

Similarly, the remarks on social condition need to be clarified to indicate what UGFA seeks to gain by its alteration. I would personally prefer to see this latter category listed as class because there are a variety of class-based discriminations in which the question of social assistance does not arise.

Aside from these particular points, I want to strongly indicate that the direction UGFA is taking in these negotiations does not conform to my own understanding of what is best for students, faculty and other members of the University community. I hope that the fact of this dissension factors into UGFA's future positions.

Prof. Daniel O'Quinn, School of Literatures and Performance Studies in English

## IT'S TIME TO ACCEPT POLICY

The U of G Faculty Association has sent numerous proposals for changes to the proposed human rights policy. The last set contains a particularly objectionable section:

"Apart from our concerns regarding interference with the ability of a supervisor to carry out his/her managerial duties, a more fundamental issue of principle arises. This pertains to the need to respect and preserve the right of supervisors to be free of coercion that could force them to act in violation of their personal beliefs in matters of conscience. It is unacceptable to us to enshrine in policy the possibility that a supervisor may be required to actively promote a belief or lifestyle (for example) that, as a matter of personal conviction, he/she cannot support. An inevitable outcome of such a policy would be to limit supervisory employment opportunities to those with a particular world view, i.e., discrimination as defined in the Ontario Human Rights Code."

Is the UGFA executive claiming that faculty should be allowed to refuse to supervise certain students because we disapprove of their beliefs or lifestyles? That is, if a faculty member doesn't want to supervise a particular student because that student is lesbian or gay (for example) and the faculty member disapproves of homosexuality as a matter of "personal conviction," he/she should be able to do so? This is ridiculous. The UGFA executive appears to be claiming that faculty members should be able to use their "personal convictions" as grounds for discriminatory behaviour, despite the explicit prohibitions on such behaviour in the federal and provincial human rights codes.

The proposed human rights policy for the University of Guelph does not "limit supervisory employment opportunities to those with a particular world view, i.e., discrimination as defined by the Ontario Human Rights Code." The University policy doesn't need to do this, because *acceptance of this world view is already a requirement of the Canadian and Ontario human rights codes.* It's a requirement not only for supervisors, but for all employees and employers as well. "Personal convictions" may play a part in individuals' personal lives, but not in their public lives — that is, they can be relevant to friendships and family relations, but not to behaviour at work. Is the UGFA executive suggesting that faculty be exempt from these provisions?

The Faculty Association has been holding up adoption of the proposed human rights policy for too long. Other constituencies on campus have accepted the draft policy. It's long past time UGFA did, too.

Prof. Karen Wendling
Department of Philosophy

# Is It Time for an Oil Change?

*U of G engineers develop accurate, inexpensive sensor to test quality of restaurants' frying oil*

After too many uses, commercial frying oil can serve up a cocktail of unpalatable — and potentially dangerous — chemicals. And no regulations exist to help restaurants know how much use is too much. U of G researchers are hoping to change that, thanks to an oil-quality sensor they've developed.

"Generally, restaurants don't know when their oil is of low quality," says Prof. Gauri Mittal, Engineering, who developed the sensor with Prof. Gord Hayward and graduate student Satheesh Paul. "With the sensor, the quality and safety of food will greatly increase."

Before it's heated, frying oil is made up mostly of triglyceride molecules. But when it's used to fry foods at high temperatures — about 160 C to 170 C — thermal changes occur in the oil. It becomes hydrolyzed (hydrogen molecules from steam react with oil chemicals, making new chemicals) and subject to oxidation, which causes chemicals in the oil to react with oxygen molecules in the air. The result is an unhealthy chemistry.

Some of the chemistry's components simply disappear into the air as a gas, but others — such as polymers and free fatty acids — remain and change the oil's chemical composition. These are potentially dangerous to consume, says Mittal. Some are carcinogenic and some damage the liver and kidneys. To make matters worse, old oil is absorbed more readily by food, filling it with even more chemicals.

Many restaurants never completely change their oil, he says. About once a week, when it gets low, they simply add new oil to the existing batch. Some restaurants filter their oil, but this removes only frying sludge. Sometimes, companies are hired to clean frying oil by adding absorbents such as charcoal and silica-based chemicals, then filtering them out, but this step still doesn't rid the oil of all contaminants.

To study the situation more closely, the researchers took oil samples from two restaurants — one in the Guelph area and one in Mississauga. They discovered unhealthy oil in both cases and no method of determining when the oil was bad (oil was deemed "bad" if free fatty acid content was greater than two per cent, polymers were greater than 16 per cent and polar compounds were greater than 25 per cent).

Ultimately, their research led to the development of an oil-quality sensor that uses electrical and optical properties of the oil to measure the levels of chemicals in it. Both an electric current and laser light are passed through the oil to determine its quality. Deterioration is evident when there's an increase in the stored electrical charge and a decrease in light penetration within the oil.

Mittal says the sensor is affordable for virtually any restaurant — between $300 and $1,000.

This research was funded by the Natural Sciences and Engineering Research Council and the Ontario Ministry of Agriculture, Food and Rural Affairs. A U.S. patent was granted in 1999.

*BY BETH MACINTOSH*
*OFFICE OF RESEARCH*

## When Is Frying Oil Safe?

CANADA and the United States lag behind Europe and Japan in regulating frying oil, says Prof. Gauri Mittal, who suggests Ottawa consider the following recommendations. He says oils should be discarded if these are not satisfied:

- Fried foods must taste and appear acceptable.
- All groups of foreign chemicals should not exceed 25 per cent by oil mass.
- The free fatty acid content should not exceed 2.5 per cent.
- The smoke point of the oils should not be lower than 170 C.
- The frying oils should not be heated above 180 C.

Mittal estimates that regulations could be developed for Canada in one year. Exporters of fried food products have contacted him about the oil-quality sensor, anxious to use it to accurately regulate their fried foods and meet stringent export demands.

# Red Wolf to Benefit From Study of Canine Cousin

*Researchers join forces to understand reproduction of rare wolf species*

THE ONTARIO VETERINARY COLLEGE and the Toronto Zoo are teaming up with the Red Wolf Species Survival Plan to learn more about the basics of canine reproduction, with a special focus on the domestic canine's rare cousin, the red wolf.

Karen Goodrowe, a reproductive physiologist at the Toronto Zoo and an adjunct professor in OVC's Department of Biomedical Sciences, is leading a team studying the cellular mechanisms of sperm-egg interaction in both domestic dogs (from OVC and breeders) and the red wolf.

"Little is known about the canine reproductive system because it is surprisingly different from other mammalian systems at the cellular level," Goodrowe says.

The team's long-term goals are to find non-surgical, reversible contraceptive methods, improve artificial insemination (AI) technologies and identify fertility predictors to improve reproductive success in both domestic and non-domestic canids, such as the red wolf.

The red wolf bounced back from the brink of extinction in the 1980s because of combined captive breeding efforts and programs that reintroduced captive animals back into the wild. But with only about 75 free-ranging red wolves in the southeastern United States and 165 in captivity, Goodrowe says learning more about how their reproductive system works and what affects their fertility, as well as refining AI and contraception technologies, could contribute to the conservation and population management effort.

A recent study published in the *Canadian Journal of Zoology* found genetic similarities between red wolves and the wolves in and around Algonquin Park. Because of these similarities, research on the red wolf could apply to all Ontario wolves, Goodrowe says.

"If Ontario species need help in terms of population management, we would be prepared to step in and assist," she says.

**Karen Goodrowe, a reproductive physiologist at the Toronto Zoo and an adjunct professor in the Department of Biomedical Sciences, is studying canine reproduction in both domestic dogs such as OVC teaching dog Brewster, shown here, and the red wolf, with the goal of enhancing population management of domestic and non-domestic canids.**
PHOTO BY MARTIN SCHWALBE

In studying domestic dogs, the researchers have found that the "nurse" cells (which surround the eggs and provide them with nutrients) are necessary for the sperm to penetrate the egg. They're now taking a closer look at the role of these specialized cells.

Goodrowe and her team are also examining the red wolf reproductive system at the cellular level using egg and semen samples obtained from red wolves in zoos around the United States. They're using a portable incubator system they devised for this part of the study. Understanding the cellular mechanisms could lead to chemically based, reversible contraceptive methods, instead of spaying and neutering for both domestic and non-domestic dogs. For the red wolf, these alternative methods could give zoo staff more tools for managing captive populations.

In another study, Goodrowe and her colleagues are comparing the effects of freezing on semen from domestic dogs and the red wolf, with the goal of optimizing AI methods for both domestic dogs and captive wild species. They've discovered that the osmolarity — the concentration of solutes in a solution — of seminal fluid from the red wolf is quite variable and much lower than in the domestic dog. This could mean that solutions added to domestic dog semen to preserve it during freezing might not work for the red wolf, Goodrowe says.

She and her team have just started an additional study to look at the effects of sperm quality — such as sperm count and motility — on reproductive success, by comparing sperm from fertile purebred domestic dogs with sperm from dogs that are subfertile. The researchers will be looking for indicators in sperm quality that breeders and zoo staff can measure to predict a particular animal's fertility.

In addition to Goodrowe, the research team consists of Toronto Zoo research assistants Gabriela Mastromonaco and Dave Ryckman, OVC graduate student Helen Bateman, OVC veterinarian Cathy Gartley, OVC professor Allan King and Will Waddell of the Point Defiance Zoo and Aquarium in Tacoma, Wash. Waddell is co-ordinator of the Red Wolf Species Survival Plan.

This research is sponsored by OVC's Pet Trust, the Natural Sciences and Engineering Research Council, the Morris Animal Foundation, the U.S. Fish and Wildlife Service and the Toronto Zoo Foundation.

Any pet owners willing to have their purebred dog participate in Goodrowe's study comparing fertile and subfertile dogs can contact her by e-mail at kgoodrowe@zoo.metrotor.on.ca.

*BY CORIE LOK*
*OFFICE OF RESEARCH*

# Motive, Consent Key in Step-Parent Adoptions

*Adoptions based on love are more successful than those prompted by other reasons, such as pleasing a spouse*

THE MOTIVE OF STEP-PARENTS to adopt their stepchildren has much to do with whether the adoption is experienced as a success or failure. This was a key finding of a first-ever study on the subject by Prof. Michael Sobol, Psychology.

Preliminary findings of Sobol's study also reveal that children should offer uncoerced consent as to whether they will be adopted by their step-parents and have contact with their birth parent or other relatives.

"There are few good data on step-parent adoptions, despite the fact that there are four times as many step-adoptions as 'full' ones," says Sobol, who has been studying Canadian adoption laws and policies for more than 20 years.

"We can't ignore step-parent adoptions or pretend they are just legal acts of little significance, nor can we lump them in with other kinds of adoptions, because the circumstances are unique," he says.

The study was based on interviews with adults aged 19 to 56 who had been adopted by a step-parent when they were between the ages of six and 12. Its most basic finding verifies what common sense already dictates — adoptions motivated out of love are viewed by adoptees as more successful than those prompted by other reasons, such as pleasing a spouse or taking financial responsibility for a child, Sobol says.

The reasons step-parents adopt children typically fall into two categories: utilitarian and emotional. The former includes motives such as pleasing a spouse, the desire for everyone in the family to have the same name, taking on the legal role as parent and increasing commitment to the marriage. The latter, by comparison, uses an adoption to reflect what is already happening in a family. "In other words, the adoption is simply the legal reflection of the emotional bond that the step-parent and child already share," he says.

Sobol's study shows that, even in cases where the adoptive parent and biological parent later divorced, "if the adoption was originally motivated by love, the relationship endured."

The research also found that in the vast majority of "unsuccessful" adoptions, consent was imposed and the resulting resentment often carried over into adulthood. "Many of our participants felt that the adoption represented a loss of self and that it was a betrayal of their past relationships," Sobol says.

By contrast, in adoptions rated a "success," there was no coercion to give consent. "Trust and respect had already been established in these relationships, and the birth parents and adoptive parents were open to discussion, so the adoptee felt secure about the change."

The study also showed that continued contact with the birth parent or birth parent's family influenced whether an adoptee considered his or her adoption a success.

"When the adoptive parent encouraged the child to continue these relationships, or talked respectfully about the birth parent or other relatives, it made the adoptee feel closer to the adoptive parent," says Sobol. "In unsuccessful adoptions, there was usually little access to the birth parent or his extended family. The adoptee felt cheated out of a relationship and was angry about this."

Other findings include:

- The chances of a successful adoption are highly dependent on the quality of the marital relationship. If the adoptee sees the marriage as "good," then the adoption is seen in parallel terms.
- How extended family members of the adoptive parent treat the adopted child also influences whether the child perceives his or her adoption to be "good" or "bad."
- In successful adoptions, children did not oppose changing their name, where applicable, but those who believed they were in "bad" adoptions felt that changing their name was a betrayal of their past.
- Adoptions should not be rushed, to avoid the step-parent being seen as "attacking" the relationship between the adoptee and custodial parent.

The study is just one of Sobol's recent efforts related to adoption and adoption reform. He has spent the past two years focusing on the development of Ontario legislation that would provide greater access to identifying information for adult adoptees and birth parents. To date, such legislation exists in British Columbia, Newfoundland and the Northwest Territories.

Recently, Sobol received the Adoption Activist Award from the North American Council on Adoptable Children. The award was given in recognition of his endeavours on behalf of adoptees and birth and adoptive parents to gain legislative entitlements equal to those accorded to people who are not part of the adoption constellation.

Sobol's latest interest revolves around drafting similar policies that would safeguard access to identifying information for those born through assisted reproductive technology."

"More and more children are being born using these procedures, yet there are no policies in place on how to manage the identifying information," he says. "I can see this becoming a major concern over the next 15 to 20 years as reproductive technology becomes even more popular. At the moment, technology is moving faster than policy and practice standards. As is the case with adoptees, there are bound to be debates and issues over a person's right to know one's genetic origins."

*BY LORI BONA HUNT*

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# Local Ale Recalls History of Plant Breeding at Guelph

*Much of the malting barley grown in Canada today traces its ancestry to OAC 21*

A BRIEF LESSON in barley breeding preceded the Feb. 8 uncapping of OAC Gold ale at Gryphs Sports Lounge. First developed by Guelph-based F&M Brewery in 1999 for the 125th anniversary of the Ontario Agricultural College, OAC Gold was previously available only on tap and in kegs.

Although the college receives some royalties from the sale of OAC Gold, acting dean Tom Michaels said the event was more significant as a way to demonstrate the relevance of Guelph research in plant breeding beyond primary agriculture. The anniversary brew is intimately tied to the history of U of G and to the history of the brewing industry in Canada, he said.

Prof. Duane Falk, Plant Agriculture, outlined the ancestry of the all-malt ale, which is made from Manley malting barley, a descendant of the famous OAC 21 barley that was first released by OAC icon Charles Zavitz in 1910.

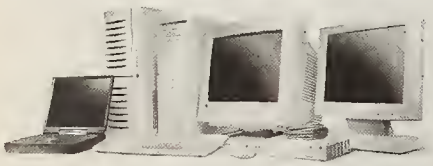
According to college history, Zavitz brought a selection of cereal grains from Russia in 1889. One barley line called *Mandscheuri* was soon determined to be superior in yield and became the focus of Zavitz's field trials. In 1903, he grew 10,000 seeds of the variety and examined each for desirable characteristics. Seed from the 33 best lines was evaluated the following year, and line 21 ultimately became the new OAC 21 variety. It was released to Ontario farmers through the Experimental Union in 1910, and was soon the primary barley variety in the province, constituting 98 per cent of barley acreage by the early 1920s.

Although it was originally selected as a high yielder for the production of livestock feed, OAC 21 was also recognized as having outstanding malting qualities, said Falk. It became the dominant barley grown in Western Canada and was considered the standard for malting quality for more than 50 years.

Newer versions of the barley were developed during the last half of the 20th century, including the 1987 release called Manley, which was used by F&M Brewery to produce OAC Gold ale. Much of the malting barley grown in Canada today traces its ancestry to the OAC 21 line, said Falk.

F&M owner Frank Cerniuk said OAC Gold in bottles is on sale at the brewery's retail outlet on Elmira Road, and he hopes to make it available through other beer and liquor outlets this year.

*BY MARY DICKIESON*



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# Initiative Aims to Help Meet Environmental Goals in Canada

*Continued from page 1*

novation's New Opportunities program for infrastructure to support his research project, a figure that was subsequently matched by the Ontario Innovation Trust.

The 2000 federal budget established CFCAS with a one-time grant of $60 million. The initiative aims to help Canada meet its environmental goals, including those of the Kyoto Protocol. The CFCAS funds research in the areas of climate system science, climate change, extreme weather, air quality and marine environmental prediction.

"The Government of Canada invested $60 million for the creation of the Canadian Foundation for Climate and Atmospheric Sciences because we truly believe that research plays a vital role in developing effective environmental policy," says Environment Minister David Anderson. "We have made significant progress in understanding climate change and air pollution, and we need to build on this momentum to ensure that we continue to take the most appropriate actions to address these issues."

More than $3.9 million was announced at the CFCAS reception. "Each of these 15 research projects is unique and important to our understanding of climate and atmosphere," said McBean. "This work not only adds to the overall knowledge base, but it also enhances the reputation and activities of leading-edge research in Canada.

"Improving the understanding of the implications of climate and atmospheric sciences on human health and the natural environment is among the most important of the foundation objectives. These projects will go a long way in meeting those objectives. For instance, we will learn more about areas as diverse as how forests filter persistent organic pollutants, stratospheric indicators of climate change and the effects of lake breezes on weather."

Prof. Ross Hallett, assistant vice-president (research infrastructure programs), noted that having two research projects selected of 15 in total is "national recognition of the impact Guelph faculty play in research that will benefit the environment. I congratulate Claudia and Jon and would like to thank the federal government for its commitment and foresight in establishing this foundation and the support it provides to basic and applied research in Canada."

*BY ALEXANDER WOOLEY*

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# CLASSIFIEDS

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Three-bedroom south-end house, fourth bedroom in finished basement, 2½ baths, close to campus, garage, central air, suitable for young family, non-smokers, no pets, available Sept. 1, $1,600 a month plus utilities, 767-1312 or send e-mail to rviswana@uoguelph.ca.

Two-bedroom bungalow with loft, bedroom and entertainment room in basement, three baths, close to YMCA-YWCA, available April 1 to June 30, 2001, 827-1281.

Bedroom in shared newer home, Troy Crescent, parking, laundry, non-smokers, no pets, $375 a month, Darly, 760-2406 after 3:30 p.m.

Three-bedroom townhouse on College Avenue for one year beginning Sept. 1, three bathrooms, central air, fireplace, garage, swimming pool in complex, looking for responsible, quiet tenants, $1,200 a month plus utilities, send e-mail to ruthie007_@hotmail.com.

Two bedrooms in shared house in York and Victoria area, parking and laundry, small pets allowed, non-smokers, mature grad students preferred, $350 plus utilities, leave message for Erica at 827-9628.

Older four-bedroom house on King Street, available September to December 2001, half-hour walk or 10-minute bus to University, three bathrooms, finished walk-in basement with office, low-maintenance gardens, deck, non-smoking, with friendly family cat, $1,500 a month plus utilities, 767-1333 after 7:30 p.m.

Upscale two-bedroom condo available for short-term or long-term accommodation, fully furnished, centrally located, air, parking, ensuite laundry, Jacuzzi, available March 15, $1,400 a month inclusive, Carol, 823-1857, 362-1857 or cmthompson52@hotmail.com.

## WANTED

Piano lessons for two boys in my home, near Guelph General Hospital, Joanne, 767-6705.

Ten-gallon fish tank, Maria, 823-5574 or send e-mail to mfagan@uoguelph.ca.

Two-bedroom apartment for two young females, about $700 a month inclusive, Christine, 760-9170 or Nicole, 821-1610.

Two-bedroom house or private main-floor apartment in house for professional couple, parking, laundry, needed for May 1, Robin, 905-276-4811 or send e-mail to rrjetta@aol.com.

Used typewriter, coat rack and chairs for graduate students' office, send e-mail to mcamer01@uoguelph.ca.

Two young professionals seeking unfurnished two-bedroom apartment in south end for April 1, must have laundry and parking for one car, send e-mail to t.signorelli@utoronto.ca or leave message at 416-588-1203.

One- or two-bedroom apartment for professional couple beginning May 1, prefer quiet country setting and utilities included, parking, Ext. 3541.

One- or two-bedroom unfurnished apartment for two people required for April 1, parking and laundry, 836-5907.

## FOR SALE

1999 Honda CRV LX, red, air, cassette, power windows/locks, 20,000 kilometres, 760-2285.

1998 VW Cabrio, 71,000 km, excellent condition; engagement ring setting, 14k yellow gold with 18 accent diamonds; Westbeach snowboarding jacket, men's large, never worn, send e-mail to seair@hotmail.com.

Fridge, dryer, 10,500 BTU air conditioner, chest freezer, leave message at 827-9221.

Love seat and chair, flowery sofa and chair, stepper exerciser, Health Rider exerciser, steel table and two padded chairs, tall black bookcase, padded patio lounger, black swivel chair, double bed with headboard and mattress, 767-2557 after 6 p.m.

1995 Mongoose Expert Pro BMX bicycle, chromoly frame, Shimano cantilever brakes, Araya aluminum rims and beefy tires for supreme dirt traction, send e-mail to tandem_one@hotmail.com.

1989 Ford Probe, five-speed, air, cruise, power mirrors, cassette, excellent condition, certified, call Denis after 7 p.m. at 836-1712.

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# EVENTS

## ARBORETUM

A pancake breakfast will be held March 3 from 9:30 to 11:30 a.m. at the Arboretum Centre. Call Ext. 4110 for information.

The Arboretum Auxiliary docents are launching a series of seasonal Sunday afternoon walks beginning March 4 and running twice a month until June 3. The theme of the March 4 walk is "Birds: Winter and Survival." The March 18 walk will focus on "The Arboretum: Past, Present and Future." The walks leave from the Nature Centre at 2 p.m. and are free, with a suggested donation of $3 per person.

Naturalist Chris Earley presents a two-day workshop on ducks, beginning March 12 with a session from 9 a.m. to 4 p.m. at the Arboretum, followed by a morning field trip to Mountsberg Conservation Authority April 7 to view migrating ducks. Cost is $63. Registration and payment are required by March 7.

Horticulturist Henry Kock will offer a day-long workshop on "Pond and Woodland Gardening" next month, with two sessions slated for March 15 and 22 beginning at 9 a.m. Cost is $32. Registration and payment are required by March 8.

Theatre in the Trees presents the dinner-theatre comedy *Something for Charlie* by Neville Bryant continues Saturdays until April 28. Doors open at 6 p.m.; showtime is 8 p.m. Tickets are $49 and are available at Ext. 4110.

## ART CENTRE

An opening reception for "Greg Denton: 'anyone lived . . .'" is March 8 at 7:30 p.m. at the art centre. The commissioned artwork, featuring 400 individual portraits of faces drawn from downtown Guelph throughout the course of a year, will be unveiled by Mayor Karen Farbridge. Denton will discuss his work at an artist's talk March 14 at 7 p.m. and a brown bag luncheon March 20 at noon.

## CONCERTS

The Thursday noon-hour concert series continues March 1 with Javanese Pesindhen performing traditional Gamelan songs and March 8 with pianist Justin Kolb presenting works by Beethoven and U.S. composers. On March 15, Larry Beckwith directs the U of G Early Music Ensemble. The concerts are held in MacKinnon 107. Admission is free, but donations are welcome.

The U of G Chamber Singers, conducted by Marta McCarthy, perform Canadian works by Willan, Daley and Evans and music from the Renaissance to gospel March 9 at 8 p.m. at Westwood United Church on Willow Road. Tickets are $8.

## CONFERENCE

A day-long conference on "Research in Alternative Therapies for Mental Illness/Mental Health" will be held March 28 at Homewood Health Centre. The conference will include two presenters from U of G — Prof. Brenda Bonnett, Population Medicine, and Kathy Somers of the Stress Management and High Performance Clinic. For more information, call Gillian Joseph in the Office of Open Learning at Ext. 4737.

## LECTURES

The School of Fine Art and Music presents pianist Justin Kolb discussing "Know the Score: Inspiration and Motivation for Surviving in the Business of Music" March 5 at 11:30 a.m. in MacKinnon 203.

The winter session of Third Age Learning-Guelph's lecture series for retired people has space in its afternoon program, which features Prof. Eric Poisson, Physics, considering "Recent Developments in Astronomy" March 7 and Prof. Deborah Stacey, Computing and Information Science, discussing "Robotics" March 14. The lectures begin at 1:30 p.m. at the Arboretum.

## NOTICES

The Campus Ministry is sponsoring a performance by the Art Music Chamber Ensemble March 3 at 8 p.m. in Thornbrough 1200 to celebrate Black History Month and to raise funds for the India earthquake relief effort. The ensemble will perform two suites by John Coltrane called "Meditations" and "Prayer and Meditation." Tickets are $5 and are available at the door.

The U of G Child-Care and Learning Centre hosts an open discussion on the theme "In a Different Time: Providing Care in a Hurried World" March 22 at 7 p.m. Prof. Kerry Daly, Family Relations and Applied Nutrition, will facilitate the discussion. To attend, RSVP by March 15 to Alison Kyba at Ext. 2682.

The fifth in a series of open forums on student issues sponsored by Student Affairs runs Feb. 28 at 11:30 a.m. in UC 441. Nancy Schmidt of Learning and Writing Services in the Learning Commons will discuss "Running on a Treadmill Going Backwards," highlighting some of her research findings on the academic experiences of first-year students.

Human Resources Development Canada (HRDC) is offering a program of wage subsidy for students in 2001. The summer career placements program runs a minimum of six weeks to a maximum of 16 consecutive weeks between the date the application is approved and Sept. 1. Jobs created for students for this program must be in addition to any summer jobs normally offered. Deadline for applications is March 27 to the Office of Research and March 30 to HRDC. This year for the first time, researchers must have positions approved by the U of G Staff Association in UC 451 before obtaining signature approval from the Office of Research. Applications are available in Reynolds 216 or on the Web at www.on.hrdc-drhc.gc.ca/kitchener/english/index_e. shtml.

Guelph's annual March Break Campus Days program for prospective students and their parents runs March 14 to 16. Activities will include a student panel, information and counselling sessions, resource displays and tours. Hundreds of U of G faculty, staff and students will participate in the events, which are based in the Athletics Centre. Last year, about 4,500 students and parents turned out over the three days.

The Wellington Society for the Countryside hosts a Farmstead/Homestead Planning Workshop March 7 from 7 to 10 p.m. in Landscape Architecture 202.

The Department of Consumer Studies is hosting the launch of its new Five Thirty Club March 7 at 5:30 p.m. at the Arboretum. This event is a mix and mingle for all B.Comm. students, faculty and alumni. To reserve a spot, contact Liz O'Neil at eoneil@facs.uoguelph.ca.

## SEMINARS

The Department of Molecular Biology and Genetics presents graduate student David Willer discussing "The Search for a Poxviral Recombinase: Strand-Exchange and Concatemer Formation Catalyzed by Vaccinia DNA Polymerase" March 2 at noon in Axelrod 337.

The Department of Mathematics and Statistics seminar series continues with Henry Wolkowicz of the University of Waterloo discussing "Semi-Definite Programming and Matrix Completion" March 2 at 2:30 p.m. in MacNaughton 121.

The Axelrod Institute of Ichthyology presents graduate student Ken Oakes explaining "Pulp Fact: Pulp Fiction" March 6 and graduate student Mariano Alonso discussing "Resource Overlap Among Top Predators and Fisheries in Patagonia" March 13. The seminars begin at 12:30 p.m. in Axelrod 168.

The Department of Physics seminar series continues March 6 at 4 p.m. in MacNaughton 113 with a talk by Joanne O'Meara of the Department of Nuclear Engineering at MIT.

The Department of Philosophy presents Marc Alspector-Kelly of the University of Michigan discussing "Making Sense of NOA: Fine and van Fraassen on Scientific Realism" March 7. On March 13, "Solitary and Embedded Knowledge" is the focus of Mark McCullagh of Southern Methodist University. The seminars are at 4 p.m. in MacKinnon 236.

The Department of Microbiology graduate seminar series presents graduate student Wayne Miller explaining "Proteomics: Going Beyond the Genome Sequencing Projects" March 9 at noon in Food Science 128.

"Caribou, Space and Time: Environmental Constraints on a Mobile Mammal" is the topic of Jim Schaefer of Trent University March 9 in the Department of Zoology seminar series. On March 16, the topic is "Global Warming and Terrestrial Biodiversity Decline" with Jay Malcolm of the University of Toronto. The seminars begin at 3 p.m. in Axelrod 265A.

The Department of Environmental Biology presents David Pimentel of Cornell University discussing "Global Population and Environmental Issues" March 12 at 7 p.m. at the OVC Learning Centre. The talk is free and open to all U of G students and faculty.

## SYMPOSIUM

The Toxicology Students' Association presents "Genes Made to Order — A Symposium on Genetically Modified Foods" March 3. Speakers include Conrad Brunk, chair of the Royal Society of Canada Expert Panel on the Future of Food Biotechnology. Cost of the symposium is $16 with lunch, $12 without. For more information, send e-mail to jdumanoi@uoguelph.ca or aakelait@uoguelph.ca.

## TEACHING SUPPORT

Teaching Support Services' winter series of training and development opportunities for faculty and teaching staff continues March 6 with "HTML IV: Digital Imaging," March 13 with "PowerPoint II: Advanced" and March 15 with "HTML III: Jump-Start Your Course Web Site." For more information or to register, visit the Web site www.tss.uoguelph.ca.

## THEATRE

The School of Languages and Literatures presents "Those Crazy Germans," five scenes by German-speaking playwrights, March 2 and 3 at 7:30 p.m. in Lower Massey Hall. Four of the scenes are in English, one in German. Admission is $3.

The drama program presents *Grace* by Michael Lewis MacLennan March 12 to 17 at the Inner Stage. Directed by Prof. Ric Knowles, the production runs nightly at 8 p.m. Tickets are $6 Monday to Wednesday and $8 Thursday to Saturday and are available at the UC box office or at the door.

## THESIS DEFENCES

The final examination of Kevin Urbanic, an M.Sc. candidate in the Department of Microbiology, is March 1 at 2 p.m. in Animal Science and Nutrition 141. The thesis is "Identification and Initial Characterization of the *mtrAB* Two-Component Signal Transduction System of *Mycobacterium avium* subsp. *Paratuberculosis*." The adviser is Prof. Lucy Mutharia.

The final examination of M.Sc. candidate Andrea Cox, Zoology, is March 1 at 2:30 p.m. in Axelrod 265A. The thesis is "Freshwater Phylogeography: The Impact of Life History Traits on the Post-Glacial Dispersal of Zooplankton in North America." The adviser is Prof. Paul Hebert.

The final examination of Jan Losos, a PhD candidate in the Department of Animal and Poultry Science, is March 8 at 9 a.m. in Animal Science and Nutrition 141. The thesis is "Modification of the Complete Chicken Lysozyme Gene Domain by Poxvirus Mediated Gene Targeting." The adviser is Prof. Ann Gibbins.

## COMMUNITY EVENTS

The Canadian Cancer Society needs volunteers to serve in executive positions and other roles of responsibility. Time commitment is about two hours a month. For more information, call 824-4261.

Canadian authors Joan Barfoot, Bonnie Burnard and Dorothy Speak will give readings March 4 at 4 p.m. at the Bookshelf Cinema. Cost is $5, with proceeds going to the Canadian Breast Cancer Foundation.

Guelph-Wellington Master Gardeners holds its fifth annual garden conference March 11 from 9:30 a.m. to 3 p.m. at the Guelph Turfgrass Institute. Guest speakers include retired U of G plant agriculture professor Jack Eggens, who will discuss chemical-free turfgrass management. Other speakers will focus on shade gardening and butterfly gardens. Conference fee is $25. Send cheques to Luci White, RR#2, 7266 Gore Road, Puslinch, ON N0B 2J0, 905-659-7356. Cheques must be received by March 4.

USC Canada's annual fund-raising dinner will be held March 5 at 6:30 p.m. at the Greek Garden Café on York Road. Guest speaker Melaku Worede will discuss USC's "Seeds of Survival" food-security program. For information or an invitation, call 823-1729 or 767-9186. On March 4 at 10:30 a.m., the Guelph Unitarian Fellowship on Harris Street holds a special USC service featuring a talk by Marie Dulude on "Empowering African Communities Toward Food Security." Everyone is welcome.

MARCH 14, 2001

@GUELPH

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# CASE Media Fellows Visit

*Program allows journalists to learn science in depth*

U OF G'S strengths in biotechnology, food safety and agri-food were on show for the media last week through an international program that allows journalists to explore newsmaking issues in depth on a university campus.

As CASE Media Fellows, reporters from CBC, the *Globe and Mail* and the *Times Higher Education Supplement* in the United Kingdom, as well as three science journalism students from Carleton University, attended three days of intensive hands-on workshops in laboratories and classrooms, led by some 40 U of G faculty, on the theme "Biotechnology and the New Science of Food."

Each year, the U.S.-based CASE — Council for the Advancement and Support of Education — offers fellowships to journalists from around the world to spend a concentrated period of time on a university campus examining a news issue in depth. The Guelph program was designed to give reporters the chance to better understand the science behind emerging food and health issues.

In 2000, U of G's Communications and Public Affairs was awarded the right to host a fellowship, making Guelph the first uni-

*Continued on page 4*

*GRACE PERIOD*

U of G drama students Shayne Kane and Kara MacBean enact a scene from the play *Grace* now running at the Inner Stage. Written by Michael Lewis MacLennan and directed by Prof. Ric Knowles, *Grace* is the story of six lost and confused characters who find grace in accidental encounters with others. It runs nightly at 8 p.m. until March 17. Tickets are $6 and $8 and are available at the UC box office or at the door. PHOTO BY MARTIN SCHWALBE

# U of G Soybean Research Gets $1-Million Boost

*Hannam family launches research fund that will promote new and innovative uses for soybeans*

U OF G has received a $1-million gift from OAC alumnus Peter Hannam and his family to launch a new research fund that could accelerate the rising demand for soybean products.

The Hannam Soybean Utilization Fund (HSUF) will be used to award annual research grants to faculty and students to promote new and innovative uses for soybeans.

"This gift demonstrates the Hannam family's dedication to soybean research and development, their commitment to the prosperous future of the agri-food industry in Ontario, and their partnership with the University of Guelph," says president Mordechai Rozanski. "We are profoundly grateful for the Hannams' faith in our university's research capability. This is a tremendous example of an alumnus giving back to U of G so that our students and faculty can continue to conduct innovative research."

Hannam, who founded First Line Seeds Ltd. in Guelph in 1982 and is now co-owner, says he has "always been impressed by the creativity of students and researchers, and I feel fortunate to be in a position to give something back to an institution that has provided me with a lot of support, both as a student and an alumnus."

Hannam says research has never been so important to the Ontario soybean industry as it is today. "Soybeans are very well-suited to growing in Ontario and have lots of potential for new uses. For the long-term prosperity of the industry, you have to expand demand and consumption beyond just food and fuel."

Bill Allison, vice-chair of the Ontario Soybean Growers' Marketing Board, says the board is "looking towards the bio-based economy, looking to add value, and it's research such as this that's going to get us there."

The first HSUF grant recipients are Prof. Bruce Holub, Human Biology and Nutritional Sciences (HBNS); Prof. Peter Pauls, Plant Agriculture; and Kemptville College faculty Allen Hills and Dean Donaldson.

Holub's award of $50,000 will fund research on an enzyme in soybeans that can slow down the progression of kidney disease. He says the funding is an important part of his research efforts to develop a cure for autosomal dominant polycystic kidney disease, an inherited disease with no known treatment that can appear at any time during life. It's estimated that 50,000 Canadians are at risk.

"This award from the Hannam Soybean Utilization Fund will hopefully allow us to create a natural nutritional and nutraceutical supplement that can further retard the progression of this disease over and above what is offered currently in the health-care system using conventional medical strategies," says Holub.

He will work with Diana Philbrick of HBNS, Dominique Bureau of the Department of Animal and Poultry Science and Bill Collins of

*Continued on page 2*

# Adapting to Climate Change Will be Painful, Expensive, Warns United Nations Report

*U of G geographer part of international panel that releases long-awaited findings*

GEOGRAPHY PROFESSOR Barry Smit's phone started ringing even before the United Nations' Intergovernmental Panel on Climate Change released its long-awaited report last month.

Smit was one of two Canadian senior authors of the most authoritative international climate report ever compiled. Three years in the making, it examines the impact of climate change on people and ecosystems and looks at adaptation to that change.

Smit was in charge of overseeing the summarization of thousands of pages of literature by the world's top scientists on countries' abilities to adjust to the weather changes of the future.

"It was an enormous task," he says, adding that he considered the job "an honour" because of the importance of the work. "Climate change is a huge issue that is very real and inevitable, and certain extremes are going to get more frequent and more severe. We will definitely experience an increase in droughts, heat waves, intense rainfall and higher temperatures."

That was also one of the declarations of the report, which included warnings that adapting to these changes is going to be a painful and expensive process, and that the world's poorest countries will be particularly vulnerable.

The UN report was presented in Geneva, Switzerland, Feb. 18, and Smit's phone has been ringing constantly since, with members of the media and other people calling to find out what's on the horizon.

"Among the main findings of the report was that climate change includes extremes," says Smit. "This matters to societies and economies, but the timing and location of extremes cannot be predicted."

The scientists concluded that human damage to the planet's climate has already begun, such as higher concentrations of warming greenhouse gases in the atmosphere, and they warned of heat stress, dangers from weather disaster and water shortages.

"The debate has shifted from 'Is it going to happen?' to 'Does it matter?' and 'Can we adapt?'" says Smit. "It's going to mean very different

*Continued on page 10*

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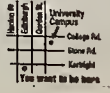



# Research Fund Will Provide Up to $150,000 a Year

*Continued from page 1*

Peter and Sandra Hannam, centre, officially announced their gift of $1 million for U of G soybean research Feb. 27 on campus. At left is president Mordechai Rozanski. At right is Prof. Bruce Holub, one of the first recipients of research support from the Hannam Soybean Utilization Fund. PHOTO BY MARTIN SCHWALBE

Agriculture and Agri-Food Canada (AAFC).

Pauls, who received $25,000, will conduct research on a line of soybeans for soy milk that don't taste "beany." This could increase consumer acceptance of a well-established soy product and boost soybean use. His project will involve collaboration between researchers at U of G and AAFC.

The "beany" flavour of soybeans develops because they have three lipoxygenase isozymes that catalyse the oxidation of polyunsaturated fatty acids such as linolenic acid and produce a variety of ketones and aldehydes. Currently, processors try to use heat or defatting to stop this process.

U of G has developed a line of soybeans with low levels of linolenic acid, and AAFC researchers have developed a lipoxygenase-free line. This project will build on the work of the two soybean breeding programs, as well as collaborative biotechnology research at the University that has been supported by the Ontario Soybean Growers' Marketing Board.

Hills and Donaldson received $25,000 to study marketing soy biodiesel fuel, an organic renewable alternative to fossil fuels. They hope to determine what would be necessary to develop the use of biodiesel in Ontario and nationwide. They will determine the effectiveness of biodiesel in field tests, overall economic impact of increased use and the factors that would have to be overcome to ensure consumer acceptance.

"The breadth and importance of the three successful proposals are an indication of Guelph's nationally recognized strengths in human health and the environment," says Rozanski. "Guelph conducts more health-related research than any other Canadian university without a medical school. We expect that our scientists and students will continue to push boundaries and that they will follow Peter Hannam's example and lead us to innovative uses for soybeans that we can't even imagine now."

Rozanski adds that when Hannam was an OAC student in the 1960s, he was told that soybeans would never be grown in this part of Ontario because the season was too short. "Fortunately for today's Ontario soybean industry, Peter took that statement as a challenge and opportunity," says Rozanski. "His hard work and determination, coupled with applied research, led to the development of new soybean varieties and market opportunities. He helped blaze a trail that has turned soybeans into the largest cash crop in Ontario."

The HSUF is administered by a 10-member advisory board chaired by the dean of OAC as well as faculty members from the departments of Food Science and Plant Agriculture, the School of Engineering and the Office of Research. The group will review grant applications on a regular basis, and about $100,000 to $150,000 will be available each year for 10 years to support research.

First Line Seeds is a founding sponsor of Project SOY (Soybean Opportunities for Youth), a contest that encourages students to create new uses for soybeans. Project SOY participants who would like to develop their inventions on a commercial scale will be encouraged to apply for HSUF support.

## @GUELPH PUBLICATION SCHEDULE

| Publication Date | Deadline | Publication Date | Deadline |
|---|---|---|---|
| March 28 | March 19 | May 23 | April 14 |
| April 11 | April 2 | June 6 | May 28 |
| April 25 | April 16 | June 20 | June 11 |
| May 9 | April 30 | | |


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UNIVERSITY OF GUELPH

## NEWS IN BRIEF

### A ROYAL AFFAIR

Thousands of visitors will descend on campus this weekend for the 77th annual College Royal open house. This year's theme is "A Royal Affair," with events ranging from traditional favourites such as the magic show and square dance competition to a lecture series and synchronized swimming. College Royal launches a new tradition this year of collecting non-perishable food items for local food banks. Collection bins will be located throughout campus. Open house hours are 9 a.m. to 5 p.m. Saturday and 10 a.m. to 4 p.m. Sunday.

### ONTARIO ENVIRONMENTAL COMMISSIONER TO SPEAK

The U of G chapter of Sigma Xi is sponsoring a special public lecture featuring Gord Miller, environmental commissioner of Ontario, March 21 at 7:30 p.m. in Room 1714 of the OVC Learning Centre. Miller, a 1976 B.Sc. graduate of Guelph, will discuss "An Ecologist in the House: The Journey From Ecology at the University of Guelph to the Halls of Queen's Park."

### LANDSCAPE ARCHITECTURE PROGRAMS AT ALBERTA, U OF G SIGN AGREEMENT

Guelph's School of Landscape Architecture and the Northern Alberta Institute of Technology's landscape architecture technology program signed an articulation agreement March 6. It allows students graduating from the two-year Alberta program to enter the third year of U of G's program if they meet the qualifications and if space is available. The agreement was approved last year, although not officially signed. Three graduates of the Alberta program are currently enrolled at U of G.

### WASTE WATER FOCUS OF SECOND ANNUAL CONFERENCE

Collège d'Alfred, the Ontario Rural Waste-Water Centre, the School of Engineering and the Office of Open Learning present the second annual Ontario On-Site Waste-Water Conference and Exhibition March 26 and 27 at the Delta Meadowvale Resort and Conference Centre in Mississauga. Registration deadline is March 22. For more information, call the Office of Open Learning at 767-5000.

### CELEBRATING THE PAST

B.A.Sc. and Mac-FACS alumni and the College of Social and Applied Human Sciences will celebrate the history of the Macdonald Institute with a heritage night March 24 in the FACS Building. A free reception will be held from 5 to 6:30 p.m. in the FACS student lounge and will feature displays from the archives. Dinner will follow. Cost of the dinner is $30 for students and $35 for staff, faculty and alumni. For tickets, call the Department of Family Relations and Applied Nutrition, Ext. 6321.

# U of G Student Invention Aims for Stress-Free House Hunting

*Web-based housing board geared to helping co-op students find affordable housing*

Two U of G software developers think they can make life a little easier for Canada's 71,000 university co-op students. Fourth-year computing science students Russell Gordon and Amy Moore have designed an Internet-based housing board to help co-op students find housing anywhere in Canada.

Now in the final stages of testing, Gordon and Moore will see their two-semester project launched publicly March 21 on National Co-Op Day. Hands-on demonstrations in the University Centre courtyard during the afternoon will be followed at 4:30 p.m. by a reception in the Whippletree hosted by Co-operative Education Services (CES).

The idea of creating a Canada-wide housing Web site came from a brainstorming session with members of the U of G Society of Co-op Students (SOCS), says Gordon. He's a member of the year-old student organization, which will hold the Guelph licence for the SOCS Housing Board and will market the concept with student groups across Canada. Gordon and Moore say the software will be given free to all university housing offices and student groups that join the system.

There should be a stampede of universities wanting to participate, says Prof. Deborah Stacey, Computing and Information Science (CIS), faculty adviser to the student developers.

"There's no reason why this couldn't be a commercial product," she says. "It is technically a very sophisticated system that addresses a real need in our society and fills a niche that other facilities don't cater to."

The SOCS Housing Board will allow landlords across the country to post multiple listings — with photographs — and to remove or change them easily. Students will use a "shopping-cart" feature to conduct a detailed search of available housing and store listings of interest, and a "map-it" feature will provide links to an online map of the area. If no listings are found in a particular city, student users can also request information anonymously from other students registered on the system who may be able to offer advice about housing in that location.

CES manager Karen Reimer has become a big fan of the SOCS project because it addresses one of the most stressful parts of the co-op experience — finding affordable housing in a strange city. "The housing situation limits the opportunities for some students who may not have the time or financial resources to thoroughly investigate the rental properties available before they have to report to work." She plans to introduce the SOCS Housing Board to other post-secondary school co-op providers through Education at Work — Ontario and the Canadian Association for Co-operative Education.

Because of the magnitude of the SOCS proposal, Gordon sought a CIS partner, and Moore answered the challenge. They each earned two fourth-year independent study course credits for their work.

"From the beginning, we wanted to design a system that would be flexible enough to accommodate many users and able to spread throughout a very large geographic area," says Gordon.

Moore adds that the project's success hinged on their initial commitment to planning. They spent a full semester thinking through the parameters of the project and designing technical specifications to meet them.

"Russell and Amy have done an amazingly thorough job of defining this project," says Stacey, who is also the faculty co-op adviser for CIS. "The unique thing is that they have a totally distributed concept — it mimics the way the Internet works — that will allow independent sites to be added without affecting the overall operation of the program."

As a faculty member, she sees the Moore/Gordon collaboration as a good example of what Guelph's computing science program tries to accomplish in software engineering.

"Beginning in second year, we emphasize team projects that go from identifying the requirements of a proposed system, incorporating the human aspects of why it's needed and how it will be used, right through to the technical application," she says. "By the time our students get to the fourth-year independent project, they're pretty good at it."

When they graduate this spring, Gordon and Moore will leave their system design in the hands of other Guelph students through SOCS. A Web site is already in place at www.housingboard.ca, where the first licensed site will be implemented.

BY MARY DICKIESON

# Co-op MA Provides Job Skills

Economics student Jessica McCullough knew that entering U of G's only master's-level co-op program would mean taking an extra eight months to finish her degree. But she figured the on-the-job experience would pay off in the end. And she was right. When she graduates in April, she'll have a master's degree in economics *and* a job with Ontario Power Generation, the firm that employed her during her co-op work semesters.

"The job experience was great in terms of providing what you can never really learn at school — first-hand experience of how the business world functions," she says.

McCullough and fellow student Richard Trent were the first two students admitted into the new co-op stream last May. It has the same requirements as the traditional MA program, with the addition of an eight-month work semester and the completion of a work report.

"Today's employers are looking for a wide set of skills," says Prof. David Prescott, Economics. "We think the co-op program will help build those skills. We also believe it will attract some excellent Canadian students to our graduate program."

Prescott notes that although the on-campus component of the program does promote wide-ranging skills, "a job placement offers a unique and complementary experience. We wanted to make our program more applied to ease the transition into the workplace by providing students and employers with the skills they need and want."

He adds that the new co-op stream is one of a number of departmental initiatives designed to better prepare students for the workplace.

McCullough, who did her undergraduate work at Brock University, says she chose U of G because of the new co-op option. "I thought it was a good opportunity and that employers would have a fresh interest in recruiting from Guelph."

She spent her first work semester in marketing and sales, then moved into demand forecasting, where she ultimately landed a full-time job.

Trent did his work term in the credit risk division of the Ontario Financing Authority before returning to U of G to finish his classroom component.

The work terms were co-ordinated through Co-operative Education Services. Prospective employers include federal and provincial government departments, large corporations and small consulting firms. Four students were admitted to the program this year.

"It's working quite well because we've been able to use current employer contacts in co-op from our undergraduate commerce and economics group," says co-op co-ordinator Janet Brydges.

"We've also had a positive response from MA economics alumni, potential employers who are aware of the program."

Positive alumni response and involvement were what the Department of Economics was hoping for, Prescott adds. The department is continually working to build alumni contacts and held a meeting in the fall that drew 35 economics graduates from as far away as Ottawa.

BY LORI BONA HUNT

## PEOPLE

### FOOD SCIENTIST TO HEAD VITICULTURE INSTITUTE

Retired food science professor Ron Suhden has been appointed director of the Cool Climate Oenology and Viticulture Institute at Brock University. Launched in 1996 in partnership with the Canadian grape and wine industry, the institute offers Canada's only undergraduate degree program in oenology and viticulture. A faculty member at Guelph since 1970, Suhden retired in 2000.

### STUDENT ATHLETES CAPTURE TOP MEDALS AT CIAU, OUA

U of G student athletes are racking up honours as provincial and national championships play out for the season. In CIAU swimming, Sean Sepulis captured three gold medals in the backstroke events and was runner-up for male swimmer of the meet. He also picked up three gold medals at the earlier OUA championships and was named swimmer of the meet. His times now seed him 11th, 16th and 23rd in the world for the 50-, 100- and 200-metre backstroke. At the OUA figure skating championships held at Guelph, Erin Jacobs placed first in three events and second in three. She captured gold in the open solo dance and combined with Jill Nealson for gold in the dance variation and senior similar dance. The skating team brought home the bronze. At the CIAU wrestling championships, Amy Tanaka captured gold, Tara Hedican and Kevin Heffron won silver and Jamie Cox was awarded the bronze. Tanaka, Hedican and Heffron were named All Canadians.

### HANDBOOK EARNS KUDOS

U of G's *Admissions 2001* student handbook received a bronze award in the 16th annual Admissions Advertising Awards competition, the largest such competition in the United States. Project managers for the handbook were Gregory Klages and Susan Vercruysse of Admission Services, with design by Chris Boyadjian.

### PHOTOGRAPHY ON DISPLAY

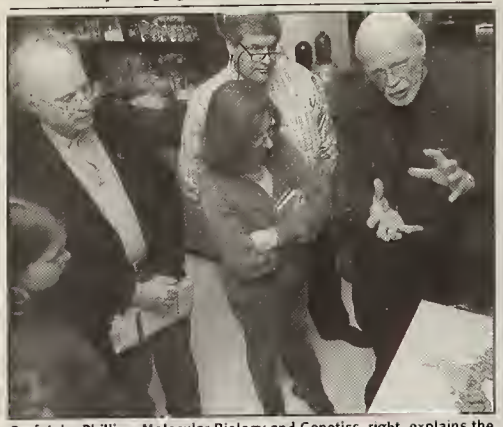
A photographic work by Lori Newdick, an MFA student in the School of Fine Art and Music, was accepted to exhibit at the Lieutenant-Governor's Suite at Queen's Park until July. The piece is from a series titled "Felonius," which Newdick created as part of her MFA work.

### BASKETBALL GRYPHONS, COACH HONOURED

Women's basketball Gryphon Pat Marcello, a point guard who led the province in scoring this season and ranked second in the country, was recently named the Ontario University Athletics West Division MVP and selected to the West Division All Star team. Joining her on the All Star team was Angela Hrkac, top rebounder in the country and the OUA. Honours also went to Leanne Rowthorn as Rookie of the Year and head coach Angela Orton as Coach of the Year.

# Science in Depth

*Continued from page 1*



Prof. John Phillips, Molecular Biology and Genetics, right, explains the transgenic processes that led to the development of the Enviropig. Listening, from left, are CASE Media Fellow Anne McCulloch, a Carleton journalism student; U of G/Donner Fellow Stephen Strauss; and CASE Media Fellows Kathryn O'Hara of the CBC and Leonard Zehr of the *Globe and Mail*. PHOTO BY MARTIN SCHWALBE

versity in Canada to be so recognized and one of only 20 universities in North America and internationally to be granted fellowships this year. Other winning institutions include Harvard University, Smith College and Vanderbilt University.

"Journalists are faced with more and more complex information about scientific issues and less time to understand it," says Darlene Frampton, director of Communications and Public Affairs.

Thanks to the fellowship program, a small group of journalists and journalists-in-training had a chance to learn science in some depth from U of G's leading researchers.

"Although the program is science-based," says Frampton, "we are also well aware that biotechnology is a controversial subject and that we have a responsibility as a nationally recognized centre for agri-food research and teaching to make those issues better understood. So the fellowship program also explored the ethical, economic, consumer and regulatory issues involved in genetically engineering food."

A steering committee was formed to plan the Guelph program, chaired by Prof. Larry Milligan, vice-president (research). Committee members included Prof. Alan Wildeman, director of the Food System Biotechnology Centre; Owen Roberts, manager of research communications in the Office of Research; and science writer and columnist Stephen Strauss of the *Globe and Mail*, who is the inaugural winner of the U of G/Donner Book Fellowship. Strauss also acted as mentor for the visiting fellows.

# LETTERS

## COMMUNITY STRENGTHENS POLICY

I wish to thank all of you who participated in the recent community consultation about adopting a human rights policy and procedure for U of G. As you will recall, the draft policy was released as an insert in both *@Guelph* and the *Ontarion* in October 2000.

Many of you know that, since 1997, several quite different draft policies have been considered by the community. Finding a policy that is right for our university has been a demanding process. Each constituency of our community has brought different sets of issues to the table. At the same time, we have all struggled to make sure that a policy is produced that is workable and communicable while being scrupulously fair, both procedurally and substantively.

Indeed, it is that quest for fairness to all parties who may become engaged with the policy and procedures that has been the motive for all participants in the consultation. The outcome, then, is that the draft policy and procedure have been directly strengthened by all the contributions made by those who attended community meetings, made written submissions and wrote letters concerning the draft policy. Who can be surprised at the outcome? When people of goodwill engage in a process such as the recent consultations, although we can't promise the debate won't become sharp, we can promise, and I believe, that as a result of those debates, we are able to deliver a stronger policy.

At this time, the draft policy, which has been revised as a result of the consultations, will be submitted to the Human Rights Policy Development Working Group. Without anticipating what the working group may wish to do with the document, it is hoped that after they review it, the policy will be forwarded to the Joint Faculty Policies Committee for consideration of the ways faculty policy may have to be amended to accommodate the existence of the policy and for further feedback. I am sure I speak for many in saying that it is hoped the human rights policy and procedures will be approved before summer 2001 for implementation in the fall semester.

Patrick Case, Director, Human Rights and Equity

## UGFA HAS PLAYED ACTIVE ROLE IN CREATING HUMAN RIGHTS POLICY

Letters to the editor in the Feb. 28 issue of *@Guelph* centred on the response of the U of G Faculty Association (UGFA) to the draft human rights policy proposed for implementation on our campus.

As president of UGFA, I would like to commend the authors of these letters for having interest and taking time to express their opinions on this matter. It was hoped for and requested by members of the working group involved in drafting the document that all groups on campus would publicly relay their feelings to each other on this very important issue. The agreed-on process would then see a reassessment of the manuscript by the working group.

UGFA has always strongly supported the creation of a human rights policy on campus and has played an active role in all aspects of its creation with a view to its speedy acceptance by Board of Governors. Our Nov. 29 response to the October draft of the suggested document was part of a campus-wide consultation designed by the working group to facilitate the final approval of a human rights policy. We consulted quite broadly with our members, and our response was heavily influenced by their expressed feelings and suggestions.

We believe this drafted document, after revisions made by the working group established by president Mordechai Rozanski, will serve to protect individuals from harassment and discrimination. It will also protect the right to freedom of expression so necessary in a truly free society.

Our best wishes go to those who have spent many long and involved hours in discussion and debate getting the draft to its current state. We encourage others on campus to express their views either through direct communication with their representatives or publicly, such as by letters to *@Guelph*.

Prof. Ian McMillan, President, UGFA

## WIRING CAN DELIVER LEADING-EDGE TECHNOLOGY IN THORNBROUGH

I am writing in response to Chuck Nixon's Feb. 28 letter, which implied that the wiring infrastructure for the Thornbrough addition would not satisfy 21st-century requirements. The University is well aware of the need to implement a campus networking infrastructure that will accommodate both current and future voice, data and video applications. The Thornbrough addition is equipped with state-of-the-art wiring, capable of delivering leading-edge technology and functionality.

Mr. Nixon is a technician with Computing and Communications Services, and his concerns relate to the physical design of the raceways (conduit trays) and the actual placement of the cables in the office wings of the building. They are different from the original design and are somewhat difficult to access for maintenance activities. These are clearly legitimate issues from his perspective, but have absolutely no impact on current or future functionality.

Ron Elmslie, Director, CCS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# Researchers Take Aim at Devastating Vegetable Pest

*Pea leafminer does widespread damage during its first year in Ontario*

Prof. Rebecca Hallett, left, and graduate student Andrea Martin are looking for ways to battle a new pest that "mines" the inner tissue of celery, onions, lettuce and other vegetable crops in the Holland Marsh area.
PHOTO BY MARTIN SCHWALBE

AN UNWELCOME new pest — the pea leafminer — is tunnelling its way through Ontario's vegetables, and U of G researchers are trying to find effective and environmentally responsible ways to stop it.

Pea leafminer larvae "mine" their way through vegetable leaves, devouring tissue from both the upper and lower surfaces. Prof. Rebecca Hallett, Environmental Biology, and master's student Andrea Martin are studying the insect's ability to survive in the province's climate, how it interacts with various host plants and the timing of emergence of the adult stage in the spring. Their goal is to develop methods to protect crops against this devastating pest.

"There are insecticides that growers might be able to use," says Hallett, "but the only registered one is undesirable, and there are restrictions on its use. We're looking for a safer pesticide, as well as alternative methods."

The pea leafminer, which is also found in California and South America, was first discovered in celery fields in Ontario's Holland Marsh area in August 1999. Already, it has devastated crops of celery and Asian vegetables. It feeds on a wide range of host plants and has also affected lettuce, spinach, onions and greenhouse ornamentals and cucumbers. The Holland Marsh is dense with crops, so there's great potential for the insect to make a home on other plants as well.

For control purposes, Hallett and Martin must first determine if the pea leafminer is capable of surviving over the winter. They collected insects in the fall in the pupal stage (the stage before they become an adult) and put them into growth chambers, which are adjusted for a variety of different temperatures. The temperature in the chambers will be brought back up to warmer conditions in the spring, and the researchers will collect data on the timing of emergence at various temperatures. With this knowledge, they can determine when it might be necessary to monitor for the insects' presence and provide some type of control.

Hallett also hopes to devise new control methods by examining how the pea leafminer interacts with its host plants. She plans, for example, to investigate how the insect fights off or avoids the natural protective compounds in celery that guard against such pests.

In addition, she intends to look at the chemicals in plants that govern which insects are attracted to them. This information could be used to develop genetically engineered plants that resist the pea leafminer. Knowledge of such chemicals could also be used to attract the insect away from the crops and into a trap or to repel the insects from the plants.

Although new insects are introduced all the time, it's rare for one to do so much damage in its first year, Hallett says.

"The stage in the development of the pea leafminer between when the egg is laid and the larva emerges could be less than a week," she says. "This means it's possible for several generations to develop over the summer."

This research is sponsored by Food Systems 2002 and the Canada-Ontario Safety Net Research and Development Fund.

*BY DALE DUNCAN*
*OFFICE OF RESEARCH*

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# Technology Helps Uncover Answers Buried in Fossils

*Scientists generate the most geometrically complete and complex model of any extinct or extant organism*

FOR THE FIRST TIME, researchers — including Guelph biomedical science professor Jeff Thomason — have used technology normally used in designing cars, bridges and airplanes to uncover answers long buried in the fossil record about how dinosaurs ate and hunted.

The scientists, who report on their work in the latest issue of *Nature* magazine, took the skull of the allosaurus dinosaur and generated the most geometrically complete and complex model of any extinct or extant organism using finite element analysis (FEA). By creating a 3-D model of the allosaurus's skull, they were able to uncover clues about the dinosaur's hunting and eating habits, such as learning that it attacked its prey head-on at a high velocity, like a person swinging a hatchet.

"This is definitely the most ambitious study to date dealing with the fossil record," says Thomason, adding that the findings demonstrate the potential of using the technique to test mechanical behaviour of fossils in ways impossible until now.

Thomason, who has used FEA in his research at OVC, provided software consultation to lead author Emily Rayfield of the University of Cambridge's Department of Earth Sciences. The project also involved researchers from the National Museum of Natural History at the Smithsonian in Washington, D.C., and the Museum of the Rockies at Montana State University.

The researchers discovered that the allosaurus had a weak muscle-driven bite force, so it relied on high-velocity impact of the skull to kill its prey and ate its victims using a "slice and tear" method, similar to the eating technique seen today in the Komodo dragon, a giant lizard. Through FEA, it was also discovered that despite its lack of a bone-crushing bite, the allosaurus could withstand a great deal of stress to its metre-long skull.

FEA is commonly used to estimate performance in structures such as bridges, airplanes and cars.

"Engineers use it when they want to test the effect of a particular force or action on an object to see what it's strong enough to withstand," says Thomason. "But it has had little application in paleontology, mainly because the researchers typically come at their subject from a biology rather than an engineering focus. This was really just a test to show that this technology can be used for this type of research."

Thomason, whose studies using FEA have included examining the strain horses' hooves experience during different activities and specific measurements of horses' strides, adds that research such as that reported in the *Nature* article will gradually increase FEA's popularity in non-traditional fields. "But it's going to require collaboration among all sorts of disciplines — engineers, biologists, paleontologists — and in the past, these types of collaborations have been few and far between."

*BY LORI BONA HUNT*

INSIGHT

# Cracking the Code of Science

*"The joys of what we do and why we do it largely remain a mystery, a mystery that the non-scientist often feels incapable of fathoming."*

BY LOUIS SIMINOVITCH

Editor's note: Renowned molecular biologist Louis Siminovitch, who helped develop the Ontario Cancer Institute and Toronto's Hospital for Sick Children, received an honorary doctorate of science from U of G during winter convocation last month. The following is an edited version of the address he gave to graduands of the College of Physical and Engineering Science.

THIS IS THE AGE OF GENETICS. Recent announcements about the Human Genome Project were preceded by full analysis of the genomes of yeast, a worm, a fruit fly, the plant arabidopsis and a number of bacteria. This body of information reminds us again of the delights of the unity of biology — genes in all these organisms, including humans, demonstrate identical functions. At the same time, hardly a day passes without the discovery of a new gene, and information is accruing with amazing rapidity on how our genes work and on their role in many organ systems, such as the multifunctional nervous system. We are truly witnessing a new frontier in biology and medicine.

The pace of all this activity is mind-boggling, and its rate of acceleration may be such that a great deal of the context of an academic book in genetics is passé almost on the day of publication. For those contemplating a career in science, the opportunities and challenges are unprecedented.

But despite the existence of several popular science magazines and some exposure in the media, this exciting and beautiful world of genetics — and for that matter, all of science — remains opaque to the vast majority of our citizenry. And it is natural that the public would have legitimate concerns and a wish to be consulted with respect to many important research issues, such as the potential sociological impact of modern genetics, of information arising from knowledge of ours as well as other genomes and from advances in genetic screening.

These latter concerns represent an interesting paradox. On the one hand, as scientists, we conceive of genetic and other advances as leading us to a golden age with wonderful prospects for major inroads into prevention and treatment of disease and into a new world of agriculture. On the other hand, many in the public translate these potential insights into fear and concern, as illustrated by global reaction and even hysteria with respect to genetically modified food and animals.

There are compelling reasons for improving the communication of scientific achievement and ethos to the general public. Primarily, there is the increasingly important impact of science on society at large, and the resulting desire of the public to be involved in the application of this new information. I use the word "increasing" because the pace of research shows no signs of slowing down. There are ever-shortening time frames for practical applications of basic science discoveries — as indicated, for example, by the rapid proliferation of biotechnology companies.

ILLUSTRATION BY ANTONIO CANGEMI

In meeting these challenges, how are we doing? In my view, not well. We have not been able to describe effectively to the public the excitement of scientific exploration, so they can see this as a voyage in which others can participate. The joys of what we do and why we do it largely remain a mystery, a mystery that the non-scientist often feels incapable of fathoming. Too often, science appears to them as a dry, abstract disembodied pursuit. We have failed to demonstrate that nothing could be further from the truth. As a result, our public audiences understand neither the principles nor the mechanics of the science enterprise. We should try to communicate the sheer magnitude of a research project, why it takes so long for its tangible application and how such research is being translated into advances in medicine, agriculture and a multi-billion-dollar biotechnology industry. No one has yet produced a best-selling *DNA for Dummies*.

How can we best approach this utopian vision of public scientific literacy? Certainly, we have to develop a feeling of trust by the public. I speak here of responsible communication. Too often, in addressing the public, we do so from the perspective of our next grant or the advancement of our institution. We, of course, tend to be highly optimistic about the scientific opportunities and challenges. But we are also aware of how much remains to be discovered. There's just too much hype. For example, despite the obvious benefits to be derived from the Human Genome Project, it may be years before this project has a major impact on disease prevention and palliation. This should be made clear. Too often, a finding, even as simple as the discovery of a new gene, is presented to the public as the new cure. We know, however, that the common chronic diseases are etiologically very complex and may not be amenable to cure for many years. It is extremely simplistic — and even unethical — to link what are most often incremental discoveries to cures. In science, we try to be honest among ourselves and do not speak with certainty and with promissory notes about uncertain things. We should be equally frank with the public.

As university graduates, your primary objective, of course, is to exploit your capacities to the fullest, to integrate your talents with the intellectual foundations inherent from many years of schooling and to develop a meaningful career in your particular discipline of profession. But as graduates in science, who have benefited from the social investment in their enterprise, you also have an obligation to help in sustaining a cultural environment that will promote and encourage the recruitment of talented youth into promising careers in science. In addition, I believe you have a special second responsibility to assist in providing the public in a responsible way with the means to develop an understanding of the ethical, social and economic issues raised by science and the need to be adequately informed in order to participate in public debate about such issues.

I hope former U.S. president Bill Clinton was right when he said: I think the language of science — and the necessity of understanding at least the basic concepts of science — will become a much more persuasive part of the average citizen's life in the next 20 to 30 years than it has ever been."

# First Response Team Fares Well at Competition

*Student teams from across Canada judged on how well they can handle crisis situations*

U OF G'S First Response Team recently competed at the National Conference of Campus Emergency Responders at McMaster University, capturing third- and fourth-place finishes.

The team also received accolades for "Best Web Site of the Year," and two members were awarded individual honours.

Each year, university emergency response teams from across the country gather for a competition and national conference sponsored by the Association of Campus Emergency Response Teams. Guelph's 43-member team is made up of student volunteers who have undergone rigorous first-aid and life-saving training. At the competition, held Feb. 16 to 19, teams vied to see who could best respond to different training scenarios.

"The competition is crisis simulation to the extreme," says Adam Gruszczynski, team supervisor and one of the co-ordinators of Guelph's First Response Team. "There are tense situations everywhere. You are judged on how you handle the situations as well as scene management, which includes things like dealing with bystanders."

U of G's team was broken up into four smaller teams, and two of the teams advanced to the finals. In addition, team member Angus Ross was named the 2001 "Beyond the Call of Duty" winner, the highest award a First Response Team member can obtain.

"Angus is just an amazing responder," says Gruszczynski. "His first-aid skills are superior, and he has excellent judgment, great leadership skills and a very clear head on his shoulders."

Another team member, Jessica Brown, was named to the 2001 President's List, which consists of finalists for the "Beyond the Call of Duty" award.

Guelph's First Response Team works in groups of four on weeknights from 5 p.m. to 8 a.m. and for 24 hours over the weekends. Team members, most of whom already have basic CPR and first-aid training, are selected each fall after an interview process and undergo an intensive two-week training period. The "on call" team stays on campus during its shift and is dispatched through U of G's Security Services to calls requiring medical assistance.

"We see everything, ranging from people who are sick or have athletic injuries to those with serious medical conditions — as well as students who are just stressed out from exams," says Gruszczynski.

Keith McIntyre, director of Security Services, lauds First Response Team members for the "excellent service" they provide to the University community. "Absolutely everyone on campus benefits from their services," he says. "They are a wonderful, highly qualified and well-trained group."

PROFILE

# THE ROAD WELL TRAVELLED

*Journey to the Middle East sets the course for political scientist's career*

BY LORI BONA HUNT

PROF. JANINE CLARK has had a severe case of the "travel bug" for as long as she can remember. In a roundabout way, it was her passion for movement and adventure that ultimately brought the political scientist to U of G.

"My parents were regularly taking me out of school to travel with them," she says. "I have memories of being abroad as early as age four. I don't think a year went by that I didn't travel at least once — all over Europe, to the Caribean, the Mediterranean."

As an undergraduate at the University of Waterloo, she worked and saved money all year so she could finance summer treks, often going alone or meeting up with friends overseas. During her third year of university, she lived and studied in Germany. So it was no surprise when, upon graduation, she announced she was taking a year off to travel and contemplate her future. But what did raise some eyebrows were her plans to visit the Middle East — alone.

"It's not usually a place that women travel to by themselves," says Prof. Maureen Mancuso, associate vice-president (academic) and former chair of the Department of Political Science. "But once you know Janine, it fits. She's game for anything."

It turned out to be an important journey for Clark — and for U of G — because the trip inspired her to make the Middle East her forte. She is now known for her research in the role of women in politics and is currently working on papers that explore women in Islam and the success of non-government organizations, such as health-care facilities, that were started by the Islamic movement.

"I was going to specialize in Latin America and planned to spend the summer after graduation travelling through there and taking an intense Spanish course," says Clark. "But one of my professors said: 'Everyone does Latin America. Why not travel to the Middle East?' And I thought: 'Why not?'"

So the Toronto native flew to Turkey and eventually made her way to Israel, where she planned to spend a couple of months taking language courses at Hebrew University in Jerusalem.

"When I first arrived, I thought it would be only a stopping point, but it was so interesting, I ended up spending an entire year in Israel, using it as my base while I travelled to other places such as Egypt. The culture just fascinated me right from the start. The religions, the politics, everything was so different from anything I had studied previously. I came back all charged up to work on my MA. I knew that this was what I wanted to do."

PHOTO BY DEAN PALMER/THE SCENARIO

Clark completed her master's degree at Carleton University, then took some time off to go to England on a Commonwealth Scholarship and, of course, to travel before enrolling in a doctoral program at the University of Toronto. From there, she taught international relations and Middle Eastern politics at the University of New Hampshire.

But after four years, Clark says, she was itching to leave the small town of Durham, N.H., (population about 10,000) and get back to Canada. Meanwhile, U of G was looking to add a professor who could work in international development and serve as a role model for students, especially its ever-growing population of female students. The Department of Political Science currently has 12 faculty members, two of whom are women. It was a perfect fit.

"Janine definitely adds strength and depth to our international development program and enhances our ability to participate in this collaborative effort," says Mancuso. "She is also very collegial and supportive of university events and students."

Clark says she enjoys teaching and mentoring students, adding that they often approach her courses tentatively. "Most students come to my classes knowing nothing about the Middle East. I've even had some tell me they want to take my classes because they want to be able to understand the newspaper."

During her frequent trips back to the Middle East, Clark says, she is constantly reminded that many western perceptions of the culture are based on false assumptions or biased media reports. For example, many westerners consider Islam to be anti-feminism and anti-women's rights. "But an extremely high percentage of women in the Middle East are supportive of the Islamic movement, and during elections there, about 50 per cent of the votes come from women. The female members don't believe Islam holds women back. In fact, they believe the opposite. They feel it presents women with opportunities, gives them rights they may not otherwise have."

Clark says helping her students gain the kind of knowledge it takes to form their own opinions is one rewarding aspect of her work. She also says the culture continues to enthrall her.

"The kind of research I do is very grassroots, very anthropological. There is little written on it. It isn't as if I can do legwork here and then make quick research trips over there. It takes time, and I am constantly meeting new people and talking to people. Of course, travelling alone in the Middle East as a woman certainly does present some situations that men probably don't have to deal with, but there are also an equal number of wonderful experiences."

For example, during her last visit, she visited Syria with a friend. "They don't get a lot of tourists, and people on buses would notice us and insist that we take the front seats so we would have the most beautiful views of the countryside," she says. "That's something you wouldn't see here or in Toronto. People don't go up to tourists and say: 'Here, have the best seats on the bus.'"

Being a full-time professor with teaching, research and committee assignments has cut into Clark's travel time, so she finds other outlets for her adventurous streaks, such as learning Latin, salsa and ballroom dancing, sailing in the summers and skiing in the winters. Most recently, she learned to drive a dog-sled. "There were six huskies. It was just something I read about once and thought I would give it a shot."

And the next time she visits the Middle East, Clark can take part in one important cultural activity: belly dancing. "It is such a part of the life there. When women get together, they often end up dancing, and they would force me to get up and do it, and I didn't know how and I felt like an idiot. So I took some lessons, and now I know how, but I'm really bad at it."

# Lecture Recognizes Contributions to Ichthyology

*Authors of monumental reference book on freshwater fishes to give inaugural talk in memorial lecture series*

THE SCIENTISTS who wrote the "bible" on freshwater fishes of Canada will give the inaugural Marcel N. Ali Memorial Lecture at U of G April 4.

Bev Scott and Ed Crossman, authors of the monumental *Freshwater Fishes of Canada*, a standard reference book in Canada for 30 years, will give a joint lecture at 7 p.m. in Room 1200 of the Thornbrough Building. Scott will focus on "Development and Current Status of the Atlantic Reference Centre." Crossman's topic is "Canadian Freshwater Fish Fauna: All Foreigners?"

Scott and Crossman wrote *Freshwater Fishes* while both held senior positions at the Royal Ontario Museum (ROM). "Together, they are responsible for training and educating successive generations of fishery scientists in Canada," says Prof. David Noakes, Zoology.

Scott is an authority on the taxonomy and systematics of both marine and freshwater fishes. He conducted long-term research programs on the biology and management of fishes of the Laurentian Great Lakes. Following his retirement from the ROM, Scott served as emeritus scientist at the Huntsman Marine Science Centre in St. Andrews, N.B. During that time, he and his wife, Millie, wrote *Fishes of Atlantic Canada*, the definitive reference work in that area.

Scott now continues his work as a senior research associate at the Ontario Ministry of Natural Resources Glenora Research Station and as a research associate at the ROM.

Crossman recently retired as curator of the Department of Ichthyology and Herpetology at the ROM and professor of zoology at the University of Toronto. He continues an active research program as curator emeritus at the ROM in the Centre for Biodiversity and Conservation Biology. The world authority on the biology of esocid fishes, particularly pike and muskie, he has studied the effects of invading exotic fish species and contributed significantly to the understanding of the history of the fish fauna of North America.

In addition to their public lecture at Guelph, Scott and Crossman will spend time in the classroom with fish biology students and advise graduate students on their research. They will also be guests at an informal reception April 3 at 7 p.m. in Room 265A of the Axelrod Building.

The Marcel N. Ali Memorial Lectures honours the memory of Marcel Naseer Ali, who died of cancer while a student in Montreal. His parents, Babu and Traudi Ali, endowed the annual lecture series to recognize outstanding contributions to ichthyology.

Babu Ali, a professor at the University of Montreal, has strong ties to the faculty at the Axelrod Institute of Ichthyology, says Noakes. He donated his personal library to U of G and created the M.A. Ali Chair Award — a wooden chair from his own days as a doctoral student at the University of British Columbia — that goes to an outstanding PhD student in aquatic biology at Guelph.

The Ali family has shown "incredible generosity" to U of G, says Noakes, who has been a friend and colleague of Babu Ali's for many years.

"These donations are a lasting testament to scholarship and to excellence in teaching and research in fish biology," says Noakes. "We at Guelph are proud to recognize the contributions of this remarkable family and to continue the traditions of excellence they have established."

*BY STACEY CURRY GUNN*

# Ontario Universities Provincial Leaders in Job Creation

Editor's note: This article appeared in the February 2001 issue of the Council of Ontario Universities publication *For the Record* and is reprinted with permission.

ONTARIO UNIVERSITIES are major contributors to economic growth and job creation in the province, directly or indirectly sustaining more than 375,000 Ontario jobs, according to findings of a recent Council of Ontario Universities (COU)-commissioned report by Enterprise Canada Research.

The Province of Ontario annually invests just over $2.1 billion in university education. Most of this investment flows directly into university operating grants, with the balance going to students in the form of scholarships and financial aid. The Enterprise Canada report, *The Economic Impact of Ontario's Universities,* finds that in return for this direct $2.1-billion investment, the province receives more than $3.2 billion back in revenues generated directly and indirectly by the university sector.

The report finds that expenditures on university education are more potent economic stimulants than expenditures on almost any other good or service. For every job created or sustained through expenditures made by a university, another 0.88 of a job is created by the ripple effect of those expenditures through the economy. Sectors that have such high employment-per-dollar "multipliers" (1.88 for Ontario universities) are judged to have a more potent job creation impact than sectors with lower multipliers. The university sector generally provides more employment per dollar than any other sector. Its employment impact is almost double that of the health/social services sector and almost twice as high as that of the business/computer services sector. Retailing, accommodation and food services, non-profit institutions serving households, and other service industries also sustain substantial employment, but none matches the employment impact of Ontario universities.

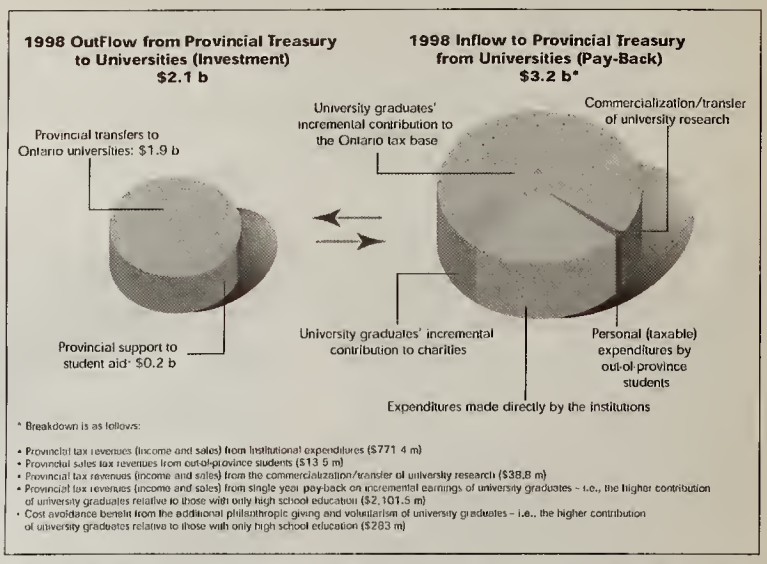
When considered as an "industry," the university sector is a significant employer. There are more people employed *directly* by Ontario universities (faculty and staff) than there are by the Canadian biotechnology sector, the national advanced manufacturing sector or the country's aerospace industry. Yet fewer than a quarter of the jobs generated or sustained by Ontario universities are found at the universities themselves.

Most of the job creation from the investment in universities is spurred by the expenditures of faculty and staff, institutional spending on materials and goods, the taxable personal expenditures of out-of-province students, the economic activity arising from the commercialization/transfer of university research, and the *additional* earnings (and therefore expenditures) of university graduates relative to taxpayers/consumers with a high school education.

The report confirms the findings of the Kubursi/Econometrics Research Ltd. study of 1992, which assessed the economic impact of both the Ontario university system and each individual institution. Kubursi's analysis showed three main reasons why the university sector generates such a high level of economic activity, and why investments in Ontario universities appear to have a greater economic impact than investments in almost any other sector. First, Ontario universities tend to spend most of their money in Ontario. Second, as labour-intensive organizations, they spend a high proportion of their funds on salaries and wages, which means the job creation impact of their expenditures is higher than in many other sectors. And third, as jobs created at universities tend to be knowledge-intensive and therefore relatively highly paid, the tax revenues generated are more substantial.

## How Ontario Universities Contribute to Economic Growth and Job Creation

Enterprise Canada developed a methodology, based on an extensive literature review and best approaches, to establish the economic impact of Ontario universities, university graduates and the commercialization/transfer of university research. The report uses 1998 as the reference year — the most recent year for which the most complete data are available. The study uses only five of many possible measures to estimate the impact of Ontario universities on the provincial economy and considers its findings to be conservative. If it were possible to take all components into account, the consolidated economic impact might well be higher.




1. Through the impact of expenditures made directly by the institutions.

Ontario universities spent approximately $4.7 billion in 1998, of which roughly 40 per cent was provided by the provincial government. This initial expenditure translated into more than $10 billion in economic activity as the spending circulated through the economy. This spending generated an estimated 196,526 person-years of employment, divided roughly evenly between direct impact — 104,535 person-years — and indirect impact — 91,991 person-years. (Note: In Enterprise Canada's methodology, a "job" is defined as the equivalent of one person-year of full-time employment.) This is a moderate estimate when compared with relevant calculations from Statistics Canada.

2. Through the commercialization/transfer of university research.

The economic impact of university-based research and development (R&D) may show up in many ways — from the consulting activity of individual faculty members to the creation of new spinoff companies, to the movement of graduates with innovative ideas and capabilities into the commercial environment, to the attraction of new capital investment to the province. Science and technology companies are known to congregate and economic clusters to form near research-intensive universities, with the resulting impact on local job creation.

University R&D also generates economic growth in other ways, such as the licensing of innovations. It is estimated that every dollar spent on licensing may trigger 20 cents in pre-production expenditures. There is also likely to be substantial equity investment to bring new products and services to market.

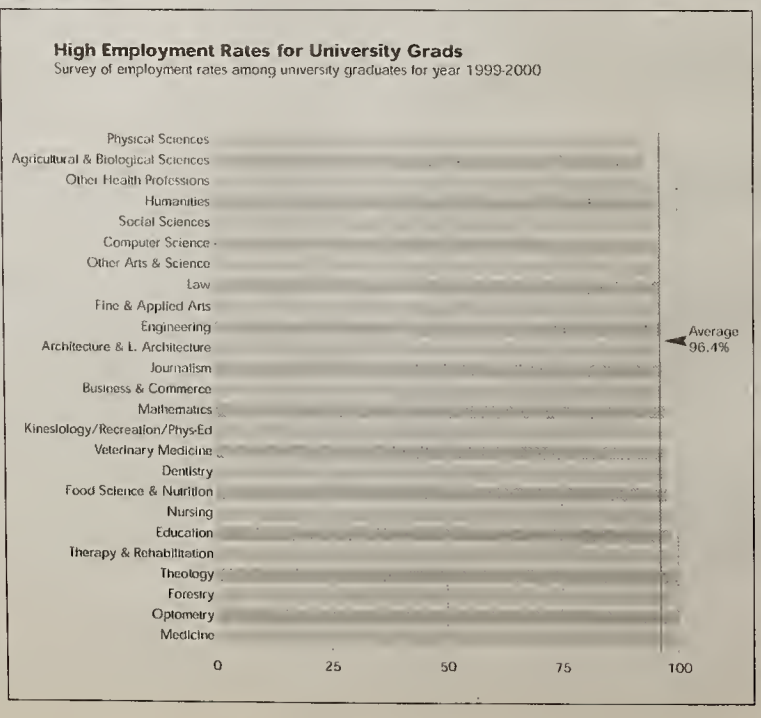
Currently, there is no precise way of estimating the full value of university-based innovation on economic growth. But a low-end estimate that uses only three of the possible components — economic activity generated by spinoff companies in a single year, the pre-production activity associated with licensing, and the paid consulting carried out by faculty — shows that the direct and indirect inflow to the provincial treasury was $38.8 million in 1998 and that some 2,400 jobs were sustained by this economic activity.

These estimates do not include the unmeasured economic impact of licensing to *existing* companies. Industry Canada estimates that in 1997, the traffic in Canadian university licensing to existing companies was of approximately the same magnitude as licensing to start-ups. Enterprise Canada speculates that the economic impact of licensing activity could be three times higher than the estimates given here.

3. Through the impact of university graduates' higher average income and spending power relative to other taxpayers and consumers.

The findings make it clear that public investment in Ontario students makes good economic sense for the province as well as for the individuals who earn a degree. Ontario receives a lifetime of public payback from its university graduates.

Our universities prepare Ontario graduates for ongoing success in the workforce. The most recent survey of Ontario university graduates (from Class of '97 undergraduate programs) shows they have achieved an overall employment rate of 96.4 per cent after two years out. Preliminary findings from the Class of '98 suggest that the rate has increased to more than 97.7 per cent two years after graduation. Among Class of '97 graduates who are employed full



*"Ontarians receive a significant, tangible economic benefit from their long-term investment in Ontario universities — a benefit that is paid out annually to support economic growth and job creation in the province. It is in everyone's interest to support a funding renewal plan that will strengthen Ontario universities as a leading engine of economic opportunity for the people of this province."*

time, 81 per cent hold jobs that are "closely" or "somewhat" related to their university education.

These productively employed, well-paid citizens are not only holding jobs, but are also creating jobs and economic opportunity for other Ontarians at a level over and above the contribution of Ontarians who have only a high school education.

By comparing the lifetime earnings of university graduates with those of high school graduates, Enterprise Canada was able to estimate the additional earnings enjoyed by university graduates over their working lives. This differential shows how much more our university graduates will contribute to the provincial tax base over their working lives than will high school graduates:

- Over the course of a working lifetime, the holder of a bachelor's degree will earn (before tax) an average of $488,500 more than an individual who has graduated from high school.
- The holder of a bachelor's degree will have $356,200 more after-tax income available than a high school graduate.
- The holder of a bachelor's degree will pay approximately $119,100 more in income taxes than a high school graduate.

In 1998, there were approximately 805,355 Ontarians with a bachelor's degree and 264,020 who held a master's or doctoral degree. The higher income and sales tax contributions of these university graduates (relative to taxpayers with a high school education) added an *additional* $2.1 billion to provincial coffers in 1998 — $1.72 billion in personal income taxes and an estimated $381.9 million in provincial sales tax revenue. This additional contribution over a single year equals the amount of public investment in Ontario universities in the same year.

The higher spending power of Ontario university graduates (relative to consumers with a high school education) is a powerful economic engine. In fact, the number of jobs created or sustained each year through the disposable income expenditures of university graduates is greater than the number of jobs created or sustained each year through the expenditures of the university system itself.

**Job Creation Summary: 1998**

*Note: In Enterprise Canada's methodology, a "job" is defined as the equivalent of one person-year of full-time employment.*

| Component | Direct | Indirect | Total |
|---|---|---|---|
| Institutional expenditures | 104,535 | 91,991 | 196,526 |
| Out-of-province students: taxable personal expenditures | 4,407 | 4,414 | 8,821 |
| Commercialization/transfer of university research | 1,342 | 1,077 | 2,419 |
| Incremental expenditures by Ontario university graduates (1998 impact of single-year cohort) | 7,592 | 3,796 | 11,389 |
| Total "single year" job creation | 117,876 | 101,279 | 219,155 |
| Incremental earnings of Ontario university graduates (1998 impact of all years) | 112,950 | 56,475 | 169,425 |
| Total job creation in 1998 associated with the university sector* | 223,234 | 153,790 | 377,191 |

**To prevent double-counting, the job creation associated with incremental earnings of university graduates (single-year cohort) has been deducted from this total before adding in job creation associated with incremental earnings (all Ontario degree holders).*
*Source: Enterprise Canada Research.*

In 1998, university graduates spent $6.78 billion more than their high school counterparts, directly or indirectly generating jobs at the rate of 25 person-years of employment per million dollars of expenditure. Ontario's entire population of university graduates thus created 169,425 *additional* person-years of employment in the province in 1998. A single year's cohort of degree holders sustained 11,389 additional jobs, directly or indirectly, over the same one-year period.

4. Through the taxable personal expenditures of out-of-province students.

Ontario universities also pay back to the province through the personal (taxable) expenditures of their out-of-province students. International and out-of-province students contributed $13.5 million to the government in provincial sales tax revenues in 1998.

It is estimated that their expenditures directly or indirectly sustained the equivalent of 8,821 full-time jobs.

5. Through the cost-avoidance benefit from university graduates' higher levels of philanthropic activity relative to high school graduates.

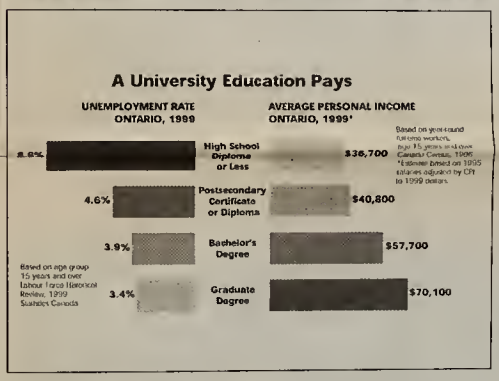
The Enterprise Canada report also calculates the value of our graduates' contributions to Ontario's charitable organizations — religion, education and research, health, culture, arts and recreation — through giving and volunteering. In 1998, university graduates donated $420.1 million more in funds and significantly more volunteer hours than their high school counterparts.

Assuming, conservatively, that at least 50 per cent of their dollars and time were directed to sectors that fall largely (if not entirely) under the provincial government's mandate, the philanthropic activity of university graduates created an estimated cost-avoidance benefit of $283 million in that year.

These five components do not even begin to capture the full range of benefits that Ontario reaps from its universities, even from a purely economic standpoint. Among the many economic factors they do not measure are the impact of non-proprietary ("public good") university research on economic innovation, the contributions of universities to their host communities, the value of corporate enterprises created and/or managed by university graduates, and the role of universities in attracting new capital investment to the province.

A full accounting would also, of course, include our universities' contributions to Ontario's social, cultural and intellectual development — contributions that lie beyond that which can easily be counted, tallied and valued.

Even within their narrow terms of reference, however, the findings show conclusively that Ontarians receive a significant, tangible economic benefit from their long-term investment in Ontario universities — a benefit that is paid out annually to support economic growth and job creation in the province. It is in everyone's interest to support a funding renewal plan that will strengthen Ontario universities as a leading engine of economic opportunity for the people of this province.



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# Retired Hotel Executive Offers Insights at HAFA

*Former Four Seasons president is executive-in-residence for winter semester*

EMPLOYMENT opportunities have never been better for the many HAFA graduates looking for experience outside Canada, says the School of Hotel and Food Administration's executive-in-residence for the winter semester.

John Sharpe, former president and chief operating officer of Four Seasons Hotels and Resorts, says that changes to U.S. visa regulations mean that recent graduates are now able to land jobs in the United States. Previously, that option was available only for management-level employees who were transferred by a company to a U.S. operation.

As a result, "you'll see companies like Marriott and Four Seasons, which have a lot of opportunities outside Canada, starting to recruit more aggressively here," he says.

Sharpe adds that the timing of HAFA's new MBA is excellent because the industry at large is giving more credit to a graduate education. Unlike a generic MBA, HAFA's program signals that graduates are committed to a career in the hospitality and tourism industry, he says.

Sharpe, who retired from the Four Seasons in 1999, saw the company grow from four hotels to its current position as a leading operator of luxury hotels with properties in 22 countries.

He recently spent a week on campus, offering insights on a variety of topics to students at all course levels. In terms of general advice, he says, "I tell them that instead of focusing on their career, to focus on their job . . . to think about doing the best job they can in the job they're in at the moment."

He also met with and congratulated the winners of the inaugural Four Seasons Entrance Scholarships — first-year students Elizabeth Hilliard, Azra Bajric and Brennan Quesnele. The three $5,000 scholarships will be awarded each year to students entering the B.Comm. program in hotel and food administration or tourism management who have made significant contributions to their communities and the hotel and food industry.

The executive-in-residence program, which runs each fall and winter, "is an excellent way for students to learn from successful and prominent industry leaders," says program co-ordinator Geoffrey Smith. "Our goal is to provide students with the opportunity to learn about success stories from an industry perspective and to give our executive-in-residence the opportunity to solicit ideas and input from students about to enter the workforce."

Sharpe is HAFA's eighth executive-in-residence. Previous participants in the program have included Doug Fyfe, president and CEO of Tourism Toronto; Wendy Swedlove of the Canadian Tourism Human Resource Council; Graham Oliver of the TDL Group (Tim Hortons); Gunter Otto of CARA Foods; and Bob Demone of CP Hotels.

*BY STACEY CURRY GUNN*

# Workshop Identifies Adaptation Strategies

*Continued from page 1*

things to different nations."

Poorer countries are the most vulnerable to the adverse effects of climate change because of their exposure and their limited ability to adapt and cope, he says.

"For example, if you compare what changes in sea levels and storms will mean to a coastal community in Florida compared with a community in Bangladesh, the loss of life and livelihood will be much, much higher in Bangladesh."

But, he adds, even in the richest, most industrialized nations such as the United States and Canada, there will be costs — both economic and otherwise.

"Rural communities and municipalities will feel the impact in many ways, and so will taxpayers as there are more requests for government assistance."

Smit says the UN report shows that "it would not be prudent to simply say: 'We have adapted before and, on that basis, we will simply react as the need arises.' We must start looking at planned adaptation, especially in developing and underdeveloped countries. They are crying out for help."

One of the sectors that can start to make this shift is agriculture, he says. It was this thinking — and the release of the report — that brought more than 100 producers, scientists, researchers and government officials to U of G March 1 and 2 for a special workshop on "Risks and Opportunities From Climate for the Agricultural Sector." The two-day brainstorming session focused on identifying adaptation strategies for the agricultural industry that relate to climate change. Suggestions ran the gamut from basic on-farm risk management through changes to crop insurance and disaster relief programs to the development of new crops.

Smit, who helped organize the workshop and was a presenter, has spent more than 20 years studying sustainable agriculture and the vagaries of weather, including climate deviations and reforestation, as well as agricultural decision-making processes. His research has taken him to China, the Philippines, Russia, Indonesia, Argentina, Ethiopia and his native New Zealand. It was this experience and his ability to study the holistic nature of climate change that drew the attention of the UN panel.

"Geographers are especially qualified for these types of projects because we connect nature and society," says Smit. "We are trained to look at how the physical and biological sciences interconnect with the economic, social and political aspects of climate change, then we are able to say what it all means for communities and ecosystems."

*BY LORI BONA HUNT*

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# Revamped CCS Structure to Provide Stronger Support

*Reorganization will better enable computing and communications to evolve*

COMPUTING and Communications Services (CCS) is completing a reorganization that's designed to provide stronger customer-oriented support for the University community, says Ron Elmslie, director of CCS.

"The result of the reorganization will be to provide improvements in the client interface to CCS, as well as improvements in CCS's ability to evolve the campus computing and communications infrastructure and services," he says. "An important element of this restructuring is the increased focus on the electronic security of the campus computing and communications environment."

CCS now consists of three major units: Central Services, the Operations Centre and University Systems. In addition, Doug Blain has been appointed information technology security officer, reporting directly to Elmslie.

Central Services, managed by Sean Reynolds, assistant director of CCS, is responsible for the delivery of central services, computing facilities, and networking and telecommunications infrastructure for the University. Within Central Services are four departments focused on specific user communities on campus — Academic Services, Campus Services, Departmental Services and Networking Services.

- Academic Services, managed by Bo Wandschneider, focuses on support for teaching, learning and research activities. This department will work closely with the academic community, the U of G Library, Teaching Support Services and the Office of Open Learning. It will also provide support for WebCT, the Data Resource Centre and various statistical computing products.
- Campus Services, managed by Paul Briggs, provides support for services that are community-wide. These include services in support of the Web, electronic mail, the directory and Corporate Time, as well as underlying infrastructure such as the central Unix, Linux and NT servers, and data storage facilities.
- Departmental Services, managed by Leon Loo, provides support for departmental technical staff responsible for college and department local area networks. This support extends to computer servers owned by U of G departments but located in the CCS Computer Centre. In addition, this department provides support for CCS labs, distributed printing facilities and anti-virus activities.
- Networking Services, managed by Jim Lennie, is responsible for the campus data and voice network. This includes the fibre and copper cable plant, the network routers and switches, and related network applications such as domain name servers and the evolving voice servers. This department will be active in the Voice Over IP project, which will combine Guelph's voice and data network.

Elmslie notes that Kent Percival, reporting directly to Reynolds, will continue to provide senior technical vision and planning leadership to all four departments within Central Services.

The Operations Centre is managed by Phil Jones and will include all help lines, the co-ordination of CCS training activities, the Computer Centre (managed by Carol-An Nagy) and the telecommunications switchboard and support services.

"This area is still being reorganized," says Elmslie, "but the intention is to simplify the access methods for any inquiry that the University community may have."

University Systems, managed by Doug Badger, has not been affected by the reorganization. It continues to provide specific technical support for designated University systems owned by major administrative units.

These include Colleague (Office of Registrarial Services), Cyborg Human Resource Management Systems (Human Resources) and Oracle Financials (Financial Services).


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# EVENTS

## ARBORETUM

The Arboretum Auxiliary's series of seasonal Sunday afternoon walks continues March 18 with a focus on "The Arboretum: Past, Present and Future" and April 1 with "Only April Fools Bark Up the Wrong Tree." The walks leave from the Nature Centre at 2 p.m. and are free, with a suggested donation of $3 per person. For more details, call Ext. 2113.

Naturalist Chris Earley leads a workshop on cottage birds April 11 from 9 a.m. to 4 p.m. Cost is $45. Registration and payment are required by March 28.

## ART CENTRE

Prof. Susan Douglas, Fine Art and Music, will give a talk on "Latin American Art and Artists" March 21 at 7:30 p.m. at the Macdonald Stewart Art Centre.

## CONFERENCE

The Department of Plant Agriculture will hold its 50th annual Muck Vegetable Growers' Conference March 28 and 29 at the Holy Martyrs of Japan Parish Centre in Bradford. For more information, visit the Web site www.plant.uoguelph.ca/news/muckconf01.htm.

## COLLOQUIUM

The Scottish studies program is holding a colloquium March 17 beginning at 10 a.m. in MacKinnon 117. The day will feature faculty and student speakers from Guelph, York University and the University of Toronto, and will conclude with an introductory course in Gaelic. The colloquium is free, and registration is not required.

## CONCERTS

The Thursday noon-hour concert series continues March 15 with Larry Beckwith directing the U of G Early Music Ensemble and March 22 with John Goddard on marimba, David Patterson on guitar and Paul Stouffer on piano. On March 29, student soloists will perform. The concerts are held in MacKinnon 107. Admission is free, but donations are welcome.

The U of G Orchestra, conducted by Henry Janzen, performs works by Bach, Brahms and Carl Maria von Weber March 17 at 8 p.m. at the River Run Centre. Tickets are $8 and $16 and are available by calling 763-3000 or in MacKinnon 210.

The U of G Jazz Ensemble, led by Jesse Stewart, performs March 22 at 9 p.m. at the University Club. Admission is $2.

U of G student winners of music scholarships will perform March 30 at 8 p.m. at the Macdonald Stewart Art Centre. Tickets are $5.

The School of Fine Art and Music and the Macdonald Stewart Art Centre present an evening of romantic German music March 31 at 8 p.m. at the art centre. Tickets are $5.

## LECTURE

International House presents John Stackhouse, foreign correspondent with the *Globe and Mail*, discussing "Development and the Developing World" March 19 at 6:30 p.m. in Thornbrough 1307.

## NOTICES

The Ontario Rural Waste-Water Centre is offering a variety of seminars and workshops March 28, with topics to include "Pumps and Controls," "Alternative On-Site Waste-Water System Design," "On-Site System Inspection, Troubleshooting and Remediation Methods," "Agricultural Waste-Water Treatment" and "Land Application of Biosolids." For more information, call Shelly Bonte-Gelok at Ext. 4687 or send e-mail to sbontege@uoguelph.ca.

## SEMINARS

The Department of Chemistry and Biochemistry presents Chester Sadowski of York University considering "Rotational Energy Transfer Studies on CN (X2E+) and CN (B2E+) in the Gas Phase" March 14 at 3 p.m. in MacNaughton 222.

The Department of Molecular Biology and Genetics presents Amira Klip of the University of Toronto and the Hospital for Sick Children discussing "Pull, Push and Tweak Mechanisms Lead to Insulin Stimulation of Glucose Uptake" March 16 at noon in Axelrod 337.

The Department of Mathematics and Statistics seminar series continues with Prof. George Leibbrandt discussing "Harnessing Infinities" March 16 at 3 p.m. On March 23, Sue Ann Campbell of the University of Waterloo explores "Stability and Bifurcation of a Simple Neural Network With Multiple Time Delays" at 2:30 p.m. The seminars are held in MacNaughton 121.

"Global Warming and Terrestrial Biodiversity Decline" is the topic of Jay Malcolm of the University of Toronto March 16 in the Department of Zoology seminar series. On March 23, the topic is "Ecology of Fear: Using Foraging Theory to Study Prey and Predators" with Joel Brown of the University of Illinois at Chicago. Erica Nol of Trent University discusses "When a Tree Falls in the Forest, Does It Make a Sound? A Case for the Birds Hearing It!" March 28. The seminars begin at 3 p.m. in Axelrod 265A.

The Department of Land Resource Science presents John Johnston of the Indiana Geological Society explaining "Raised Beaches in the Great Lakes: Insight Into Past Lake Levels" March 16. On March 23, the topic is "Land Degradation in Iran: The Causes" with Mohammad Hajabbasi of the Isfahn University of Technology in Iran. The seminars begin at 3 p.m. in Richards 124.

The Department of Microbiology seminar series features Lori Burrows of the University of Toronto and Toronto General Hospital speaking on "Together We Stand: Divided We Fall: The Genetics of *Pseudomonas aeruginosa* Biofilm Formation" March 19 at 3 p.m. in Food Science 128.

The Department of Philosophy presents Brad Wray of the University of British Columbia discussing "Collaborative Research and the Success of Science" March 19 at 4 p.m. in MacKinnon 236.

"History and Archives in the Real World" is the topic of Algonquin Park archivist Charlotte Woodley in the Department of History's visiting speakers series March 20 at 10 a.m. in MacKinnon 226.

The Axelrod Institute of Ichthyology presents Margaret Docker of the University of Windsor discussing "Genetics and Evolution in Lampreys" March 20. On March 27, "Greenside Darter in the Grand River: A Metapopulation Concept" is the topic of graduate student Kabir Chowdhury. The seminars begin at 12:30 p.m. in Axelrod 168.

The Department of Physics seminar series continues March 20 with Kenneth Ragan of McGill University explaining "Ground-Based Gamma-Ray Astrophysics" and March 27 with Sampa Bhadra of York University discussing "Looking Deep Inside the Proton *or* How We Came to Sweat the Small Stuff." The seminars begin at 4 p.m. in MacNaughton 113.

Up next in the biochemistry seminar series is microbiology graduate student Blaine Legaree discussing "Protein-Protein Interactions of the Peptidogylcan Metabolizing Enzymes in *Pseudomonas aeruginosa*" March 21. On March 22, graduate student Lorraine Armstrong-Hippolyte, Chemistry and Biochemistry, considers "Construction of *E. coli* LacZ Strains for Testing the Mutagenicity of Tamoxifen and/or Its Metabolites." The seminars begin at noon in MacNaughton 222.

The Department of Microbiology graduate seminar series features Alicia Gallaccio explaining "Molecular Approaches Used to Assess Virulence in a Fish Pathogen" March 23 at noon in Food Science 128.

## SYMPOSIUM

The Nutraceutical Alliance's second annual symposium in conjunction with the Equine Research Centre focuses on "Advancements in Natural Products" March 23 and 24 at the Victoria Park East Golf Club. Industry leaders will give talks on natural health products for animals, with special emphasis on horses. For more information, call Wendy Pearson-O'Neill or Sharon Wootton at 837-0061 or send e-mail to info@nutraceuticalalliance.com.

## TEACHING SUPPORT

Teaching Support Services' winter series of training and development opportunities for faculty and teaching staff continues March 21 with a "Design Café," March 26 with "Producing Quality Video for Teaching" and March 29 with "Digitizing Video for Teaching." For more information or to register, visit the Web site www.tss.uoguelph.ca.

## THESIS DEFENCES

The final examination of M.Sc. candidate Greg Newton, Microbiology, is March 19 at 9:30 a.m. in Animal Science and Nutrition 141. The thesis is "Investigation Into the Molecular Basis for Serotype Differences in *Pseudomonas aeruginosa* Serogroup O5." The adviser is Prof. Joseph Lam.

The final examination of PhD candidate Wei Quan Tian, Chemistry and Biochemistry, is March 21 at 9:30 a.m. in MacNaughton 222. The thesis is "Density-Functional Theory: Chemical Tests and Evaluation of Exchange Correlation Functionals." The adviser is Prof. John Goddard.

The final examination of Hesam Dehghani, a PhD candidate in the Department of Biomedical Sciences, is March 29. The seminar begins at 9 a.m. in OVC 1642, followed by the defence in Room 1691. The thesis is "Embryonic Alkaline Phosphatase and Protein Kinase C in Preimplantation Mouse Development." The adviser is Prof. Ann Hahnel.

## COMMUNITY EVENTS

Guelph-Wellington Women in Crisis will hold its fifth annual auction and dinner March 24 beginning at 5 p.m. at Guelph Place. Cost is $25. For tickets and information or to donate to the auction, call 836-1110.

The Big Sister Association of Guelph will hold its sixth annual Rock 'n' Roll Auction April 5 at the Cutten Club. Doors open at 6 p.m., with silent and live auctions beginning at 7 p.m. Tickets are $15. For more information, call Ext. 3343 or 824-0800.

The next meeting of the Wellington County branch of the Ontario Genealogical Society is March 27 at 7 p.m. at the Unitarian Church, 122 Harris St.

The ninth annual AIDS Gala Art Auction will be held March 16 at the River Run Centre. Donations for the auction have been received from local and province-wide artists. Also up for bid are items such as dinners, sky diving and a Caribbean cruise. Tickets are $25 and include a tax receipt. For more information or tickets, call Jan Robertson at 763-2255, Ext. 24.

The Guelph Concert Band presents "Rhapsody in Blues" March 18 at 7:30 p.m. at the River Run Centre. Tickets are $15 general, $12 for seniors and students and $5 for children. To order tickets, call 763-3000.

Guelph Little Theatre presents the Norm Foster comedy *Opening Night*, with performances running March 15 to 17, 22 to 25 and 29 to 31 at 8 p.m., plus a 2 p.m. matinee March 25. For ticket information, call 821-0270.


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